

Service
Service
Service



Service Manual

COMPACT
disc
DIGITAL AUDIO

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3139 785 30015

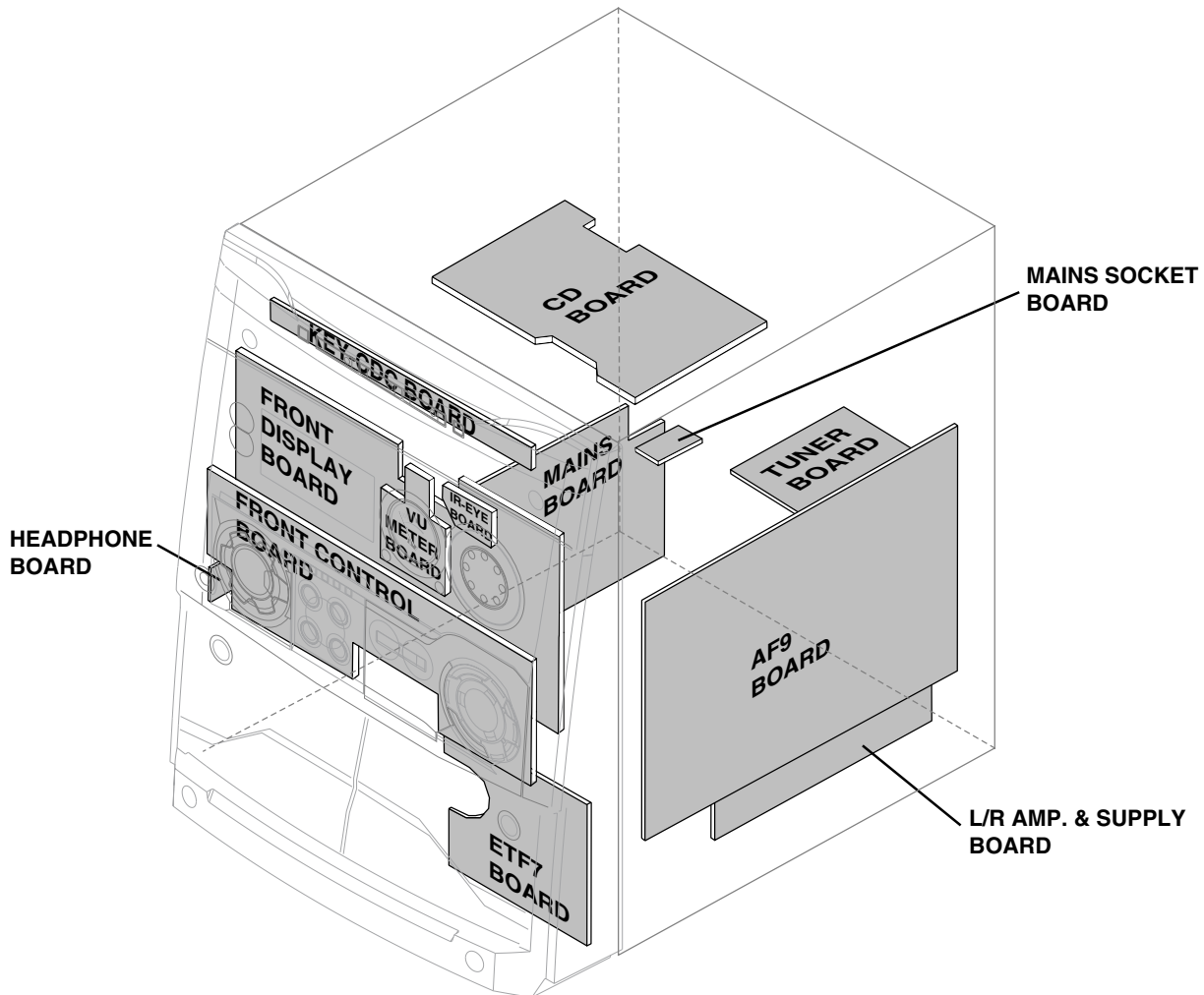
CLASS 1
LASER PRODUCT

Version 1.0



PHILIPS

LOCATION OF PRINTED CIRCUIT BOARDS



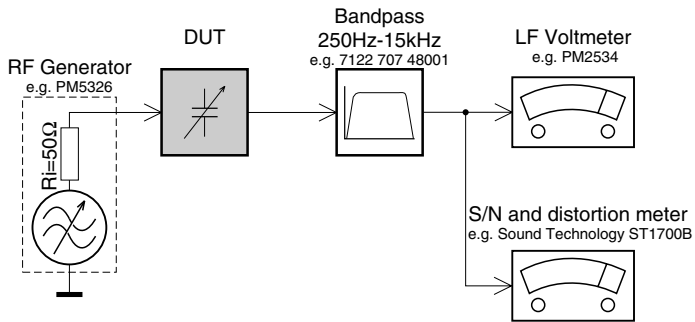
VERSION VARIATIONS:

[illegible]

1) Default setting is OFF, to switch on please refer page 3-4.

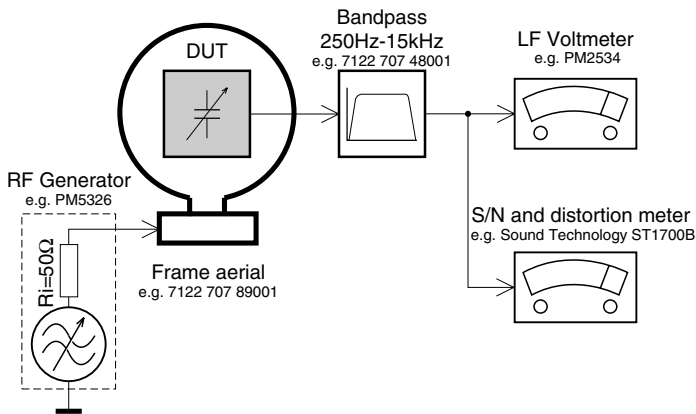
MEASUREMENT SETUP

Tuner FM



Use a bandpass filter to eliminate hum (50Hz, 100Hz) and disturbance from the pilotone (19kHz, 38kHz).

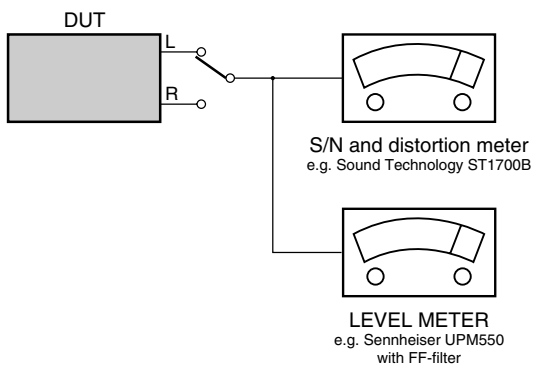
Tuner AM (MW,LW)



To avoid atmospheric interference all AM-measurements have to be carried out in a Faraday's cage.
Use a bandpass filter (or at least a high pass filter with 250Hz) to eliminate hum (50Hz, 100Hz).

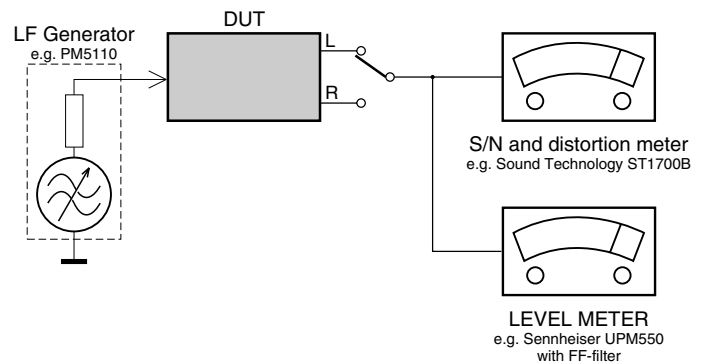
CD

Use Audio Signal Disc SBC429 4822 397 30184
(replaces test disc 3)



Recorder

Use Universal Test Cassette **CrO2** SBC419 4822 397 30069
or Universal Test Cassette **Fe** SBC420 4822 397 30071



SERVICE AIDS

Service Tools:

Universal Torx driver holder	4822 395 91019
Torx bit T10 150mm	4822 395 50456
Torx driver set T6 - T20	4822 395 50145
Torx driver T10 extended	4822 395 50423

Cassette:

SBC419 Test cassette CrO2	4822 397 30069
SBC420 Test cassette Fe	4822 397 30071
MTT150 Dolby level 200nWb/M	4822 397 30271

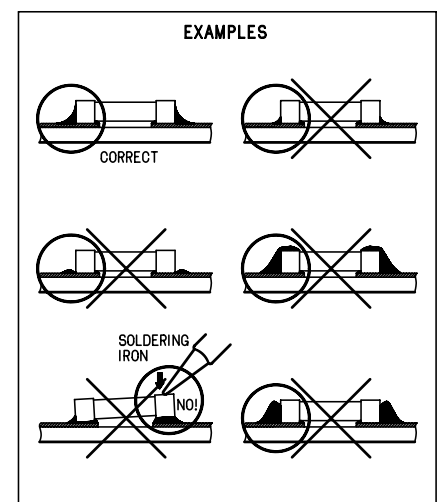
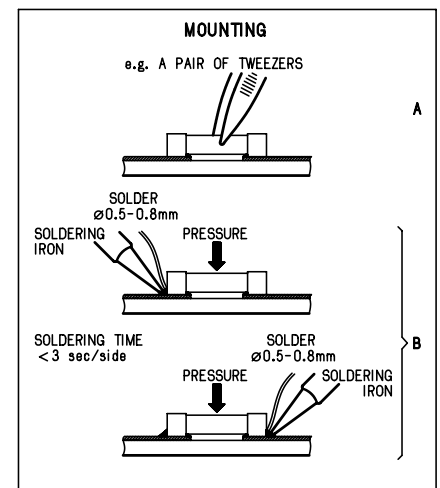
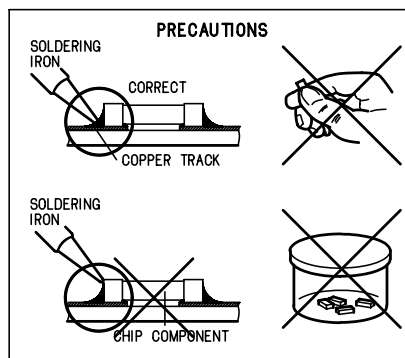
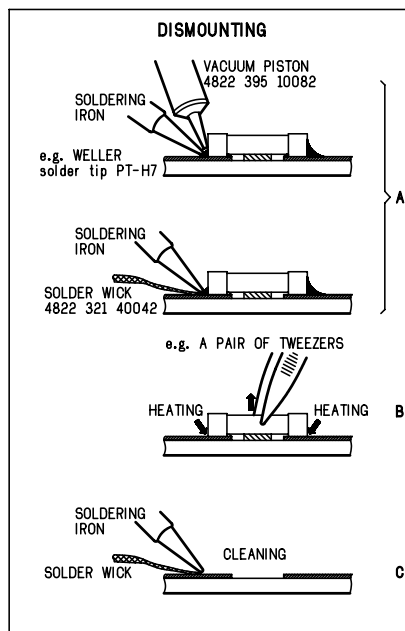
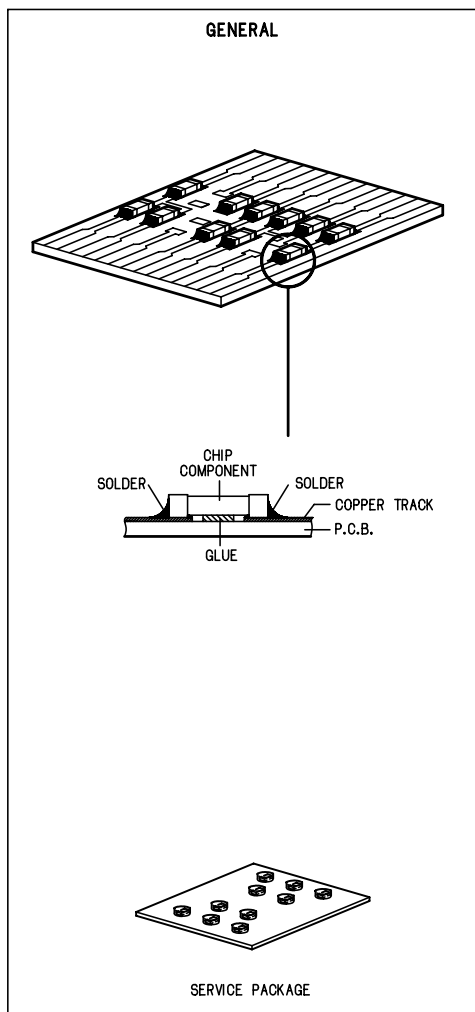
Compact Disc:

SBC426/426A Test disc 5 + 5A	4822 397 30096
SBC442 Audio Burn-in Test disc 1kHz	4822 397 30155
SBC429 Audio Signals disc	4822 397 30184
Dolby Pro-logic Test Disc	4822 395 10216

ESD Equipment:

Anti-static table mat - large 1200x650x1.25mm ...	4822 466 10953
Anti-static table mat - small 600x650x1.25mm	4822 466 10958
Anti-static wristband	4822 395 10223
Connector box (1M Ω)	4822 320 11307
Extension cable (to connect wristband to conn. box)	4822 320 11305
Connecting cable (to connect table mat to conn. box)	4822 320 11306
Earth cable (to connect product to mat or box)	4822 320 11308
Complete kit ESD3 (combining all above products)	4822 320 10671
Wristband tester	4822 344 13999

HANDLING CHIP COMPONENTS



(GB) WARNING

All ICs and many other semi-conductors are susceptible to electrostatic discharges (ESD). Careless handling during repair can reduce life drastically.

When repairing, make sure that you are connected with the same potential as the mass of the set via a wrist wrap with resistance. Keep components and tools also at this potential.

ESD**(NL) WAARSCHUWING**

Alle IC's en vele andere halfgeleiders zijn gevoelig voor electrostatische ontladingen (ESD).

Onzorgvuldig behandelen tijdens reparatie kan de levensduur drastisch doen verminderen. Zorg ervoor dat u tijdens reparatie via een polsband met weerstand verbonden bent met hetzelfde potentiaal als de massa van het apparaat.

Houd componenten en hulpmiddelen ook op ditzelfde potentiaal.

(F) ATTENTION

Tous les IC et beaucoup d'autres semi-conducteurs sont sensibles aux décharges statiques (ESD).

Leur longévité pourrait être considérablement écourtée par le fait qu'aucune précaution n'est prise à leur manipulation.

Lors de réparations, s'assurer de bien être relié au même potentiel que la masse de l'appareil et enfiler le bracelet serti d'une résistance de sécurité.

Veiller à ce que les composants ainsi que les outils que l'on utilise soient également à ce potentiel.

(D) WARNUNG

Alle ICs und viele andere Halbleiter sind empfindlich gegenüber elektrostatischen Entladungen (ESD).

Unvorsichtige Behandlung im Reparaturfall kann die Lebensdauer drastisch reduzieren.

Veranlassen Sie, dass Sie im Reparaturfall über ein Pulsarmband mit Widerstand verbunden sind mit dem gleichen Potential wie die Masse des Gerätes.

Bauteile und Hilfsmittel auch auf dieses gleiche Potential halten.

(I) AVVERTIMENTO

Tutti IC e parecchi semi-conduttori sono sensibili alle scariche statiche (ESD).

La loro longevità potrebbe essere fortemente ridatta in caso di non osservazione della più grande cauzione alla loro manipolazione.

Durante le riparazioni occorre quindi essere collegato allo stesso potenziale che quello della massa dell'apparecchio tramite un braccialetto a resistenza.

Assicurarsi che i componenti e anche gli utensili con quali si lavora siano anche a questo potenziale.

(GB)

Safety regulations require that the set be restored to its original condition and that parts which are identical with those specified, be used.

"Pour votre sécurité, ces documents doivent être utilisés par des spécialistes agréés, seuls habilités à réparer votre appareil en panne".

(NL)

Veiligheidsbepalingen vereisen, dat het apparaat bij reparatie in zijn oorspronkelijke toestand wordt teruggebracht en dat onderdelen, identiek aan de gespecificeerde, worden toegepast.

(F)

Les normes de sécurité exigent que l'appareil soit remis à l'état d'origine et que soient utilisées les pièces de rechange identiques à celles spécifiées.

(D)

Bei jeder Reparatur sind die geltenden Sicherheitsvorschriften zu beachten. Der Originalzustand des Geräts darf nicht verändert werden; für Reparaturen sind Original-Ersatzteile zu verwenden.

(I)

Le norme di sicurezza esigono che l'apparecchio venga rimesso nelle condizioni originali e che siano utilizzati i pezzi di ricambio identici a quelli specificati.

"After servicing and before returning set to customer perform a leakage current measurement test from all exposed metal parts to earth ground to assure no shock hazard exist. The leakage current must not exceed 0.5mA."

**(GB) Warning !**

Invisible laser radiation when open.
Avoid direct exposure to beam.

(S) Varning !

Osynlig laserstrålning när apparaten är öppnad och spärrar är urkopplad. Betrakta ej strålen.

(SF) Varoitus !

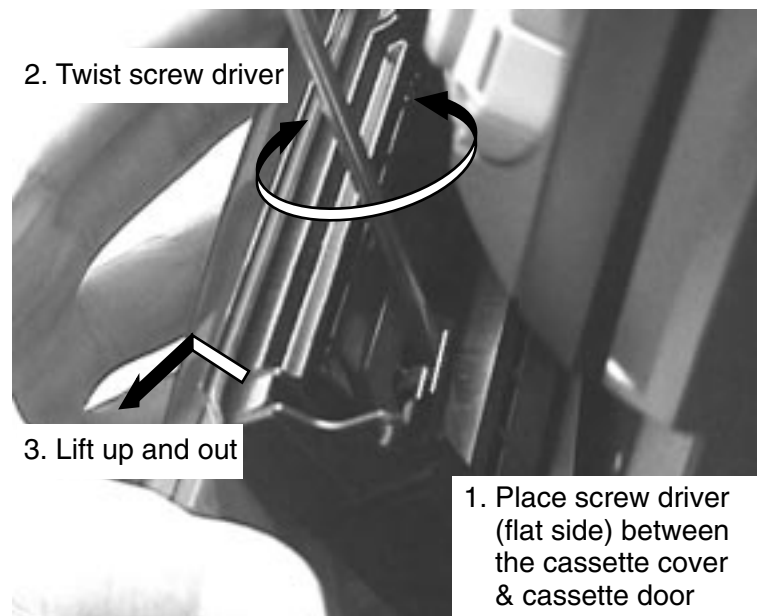
Avatussa laitteessa ja suojauslaitteiden ohitettaessa olet alttiina näkymättömälle laserisäteilylle. Älä katso säteeseen!

(DK) Advarse !

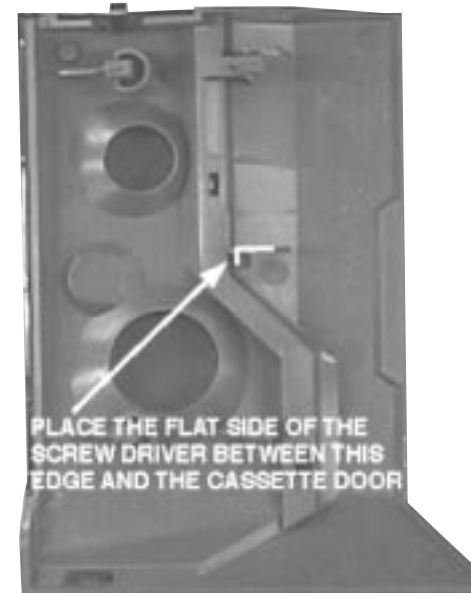
Usynlig laserstråling ved åbning når sikkerhedsafbrydere er ude af funktion. Undgå udsættelse for stråling.

DISMANTLING INSTRUCTIONS

Dismantling of the Cassette Cover



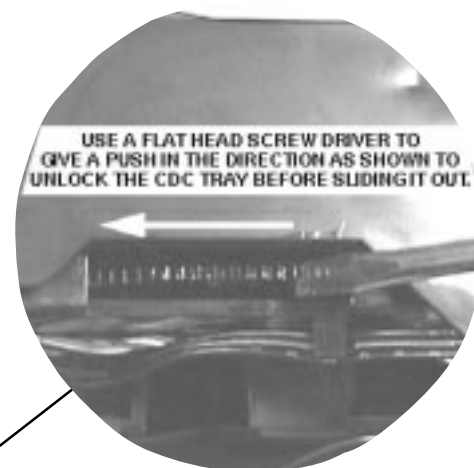
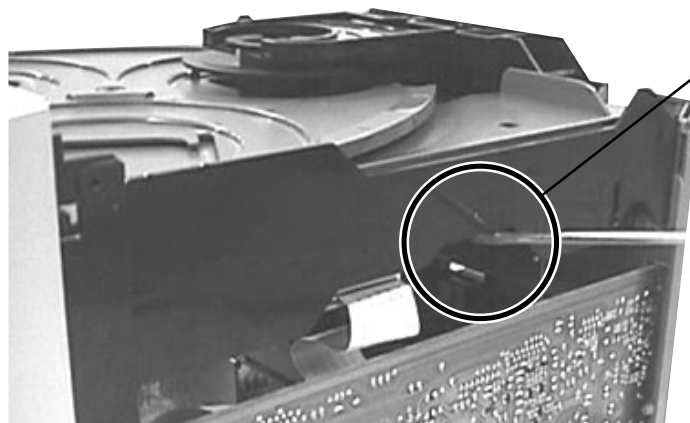
Remove Cassette Cover



Cassette Cover

Dismantling of the CDC Module and Front Panel Assembly

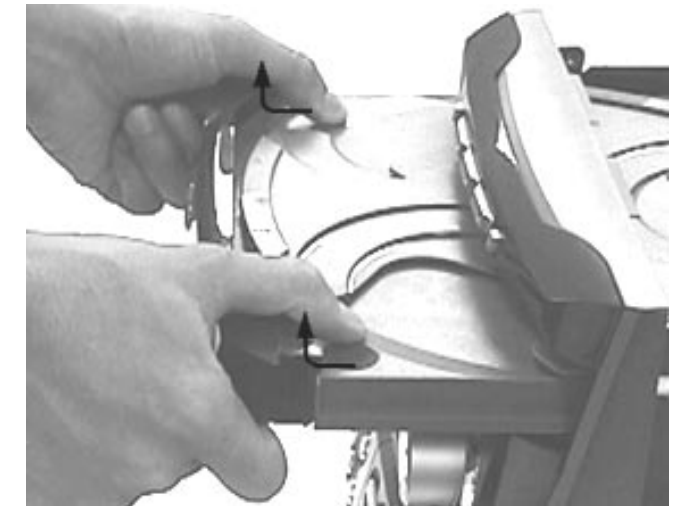
- 1) Loosen 4 screws to remove the Cover Top (pos 255) of the set.
- 2) Loosen 3 screws to remove the Panel Left (pos 253) and 3 screws to remove the Panel Right (pos 254) of the set.
- 3) Slide out the CDC Tray as shown in the diagram below with the help of a flat head screw driver.



Sliding out the CDC Tray

Dismantling of the CDC Module and Front Panel Assembly

- 4) Remove the Cover Tray CDC (pos 106) as indicated.

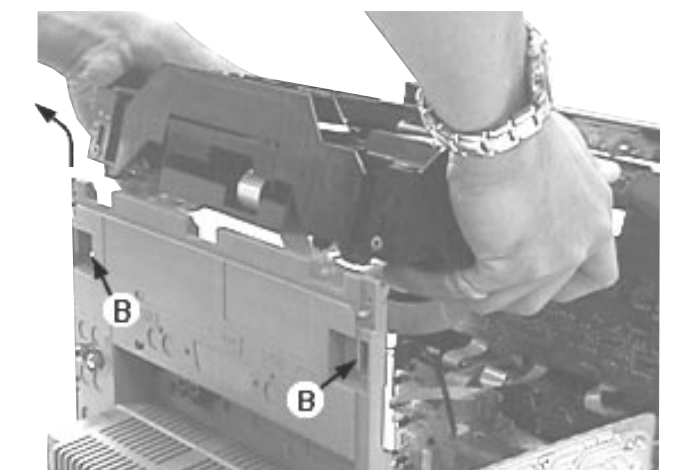


Remove Cover Tray CDC

- 5) Loosen 2 screws A and 2 screws B to remove the CDC Module (pos 1105) as indicated.
- 6) Remove 2 screws (pos 226) at the bottom to separate the Front Panel Assembly from the Plate Bottom (pos 265).



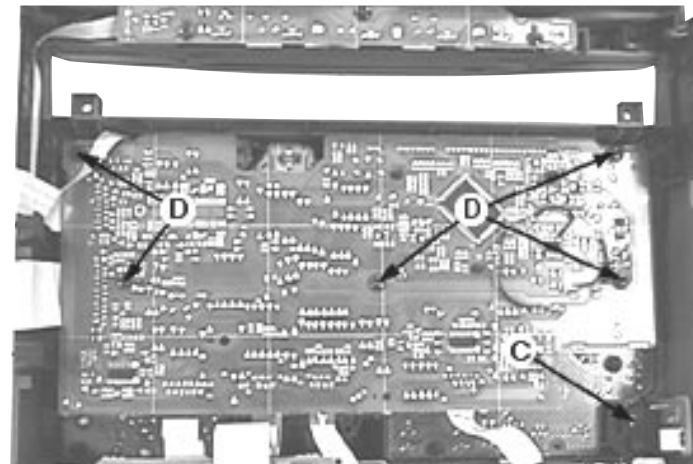
Front View CDC



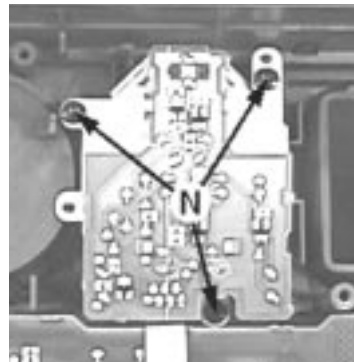
Remove CDC Module

Dismantling of the Front Display Board and Front Control Board

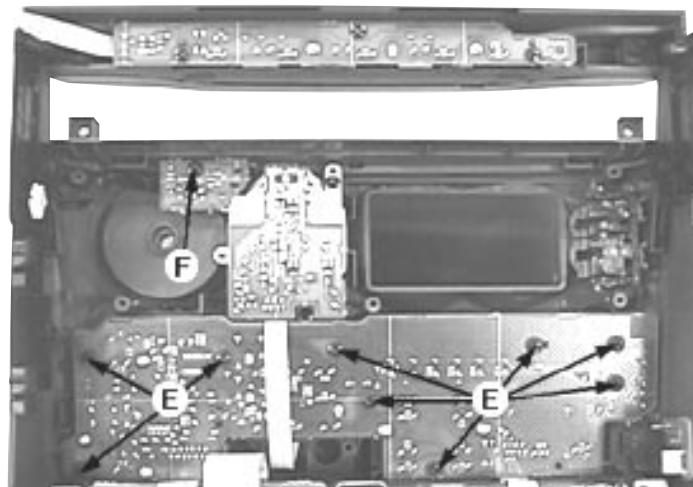
- 1) Remove 1 screw C as indicated to loosen the Headphone Board (pos 1101-B).
- 2) Remove 5 screws D as indicated to loosen the Front Display Board (pos 1101-A).
- 3) Remove 9 screws E as indicated to loosen the Front Control Board (pos 1107-A).
- 4) Remove 1 screw F as indicated to loosen the IR-Eye Board (pos 1107-D).
- 5) Remove 3 screws N as indicated to loosen the VU Meter Board (pos 1107-C).



Remove Front Display Board and Headphone Board



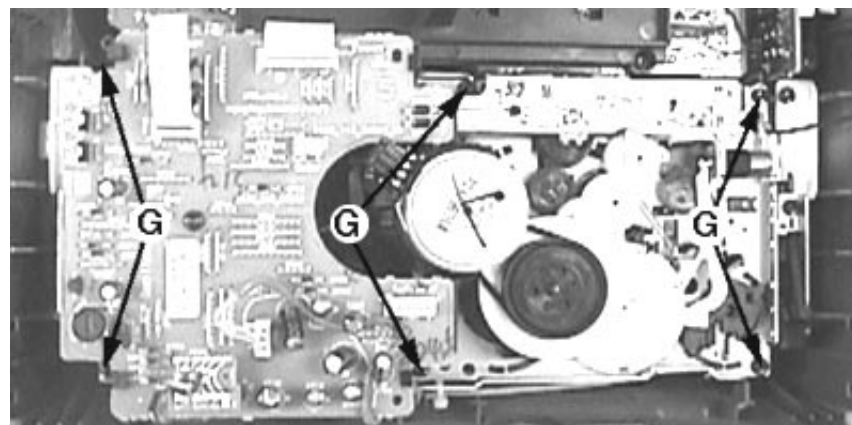
Remove VU Meter Board



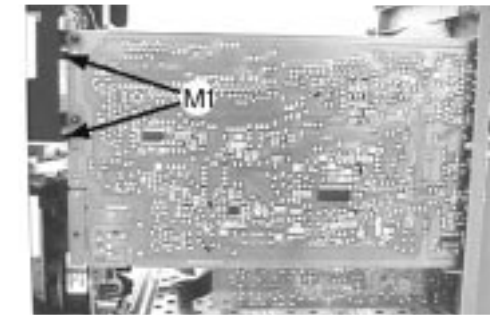
Remove Front Control Board and IR-Eye Board

Dismantling of the ETF Tape Module

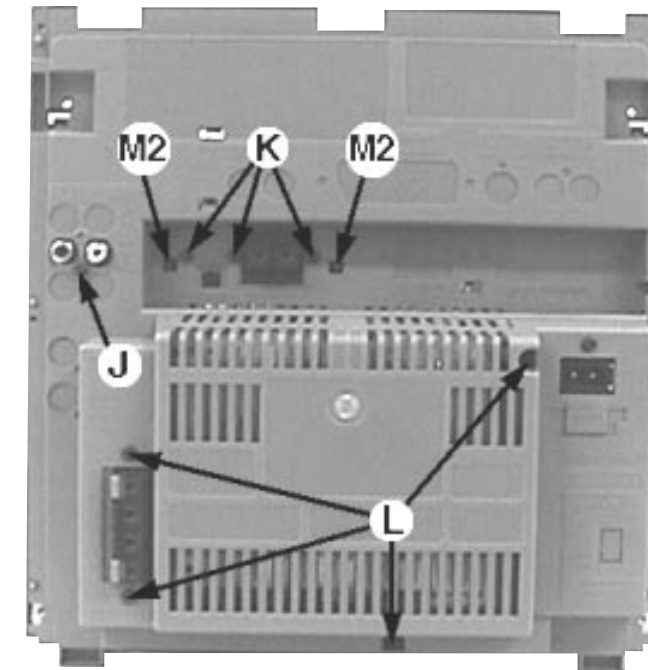
- 1) Remove 6 screws G as indicated to loosen the ETF Tape Module (pos 1104).

**Dismantling of the Rear Portion**

- 1) Remove 1 screw J and uncatch M1 as indicated to loosen the AF Board (pos 1102-A).
- 2) Remove 3 screws K and uncatch M2 as indicated to loosen the Tuner Board (pos 1103).
- 3) Remove 4 screws L as indicated to loosen the Panel Rear (pos 256).



Remove AF Board

**Repair Hints**

- 1) The Knob Volume Black (pos 117) can be remove by inserting a strong string into the slot and pull it out in the direction as indicated. See picture 1.

Picture 1



- 2) The Knob Jog Rotary (pos 140) can be remove by inserting a strong string into the slot and pull it out in the direction as indicated. See picture 2.

Picture 2

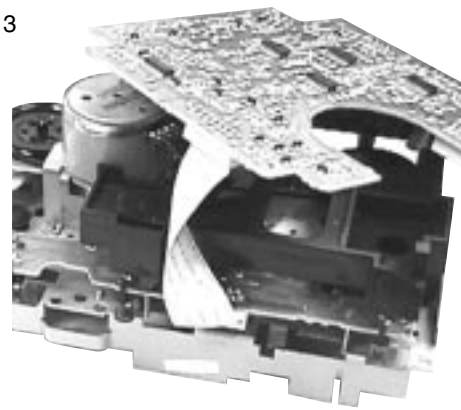


Repair Hints

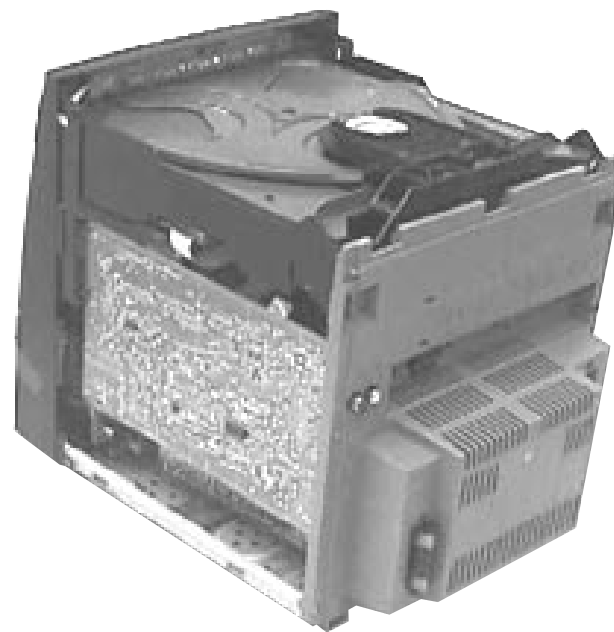
- 3) During repair it is possible to disconnect the Tuner board and CDC Module completely unless the fault is suspected to be in that area. This will not affect the performance of the rest of the set.
- 4) Due to the short flex cable wires in the ETF Module, the pc board should be disconnected and reconnected on the reverse side of the tape mechanism to keep it electrically connected during repair. See picture 3.

Note: The flex cables are very fragile, care should be taken not to damage them during repair. After repair, be very sure that the flex cables are inserted properly into the flex sockets before encasing, otherwise faults may occurs.

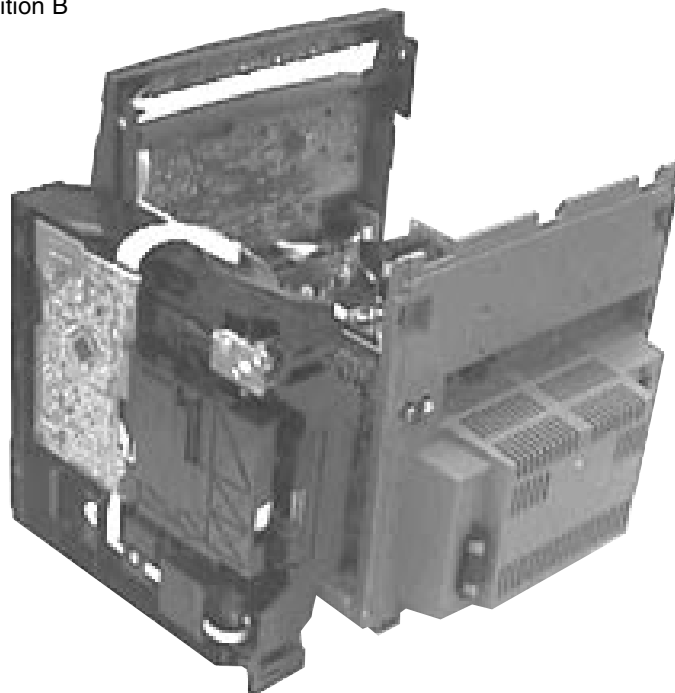
Picture 3



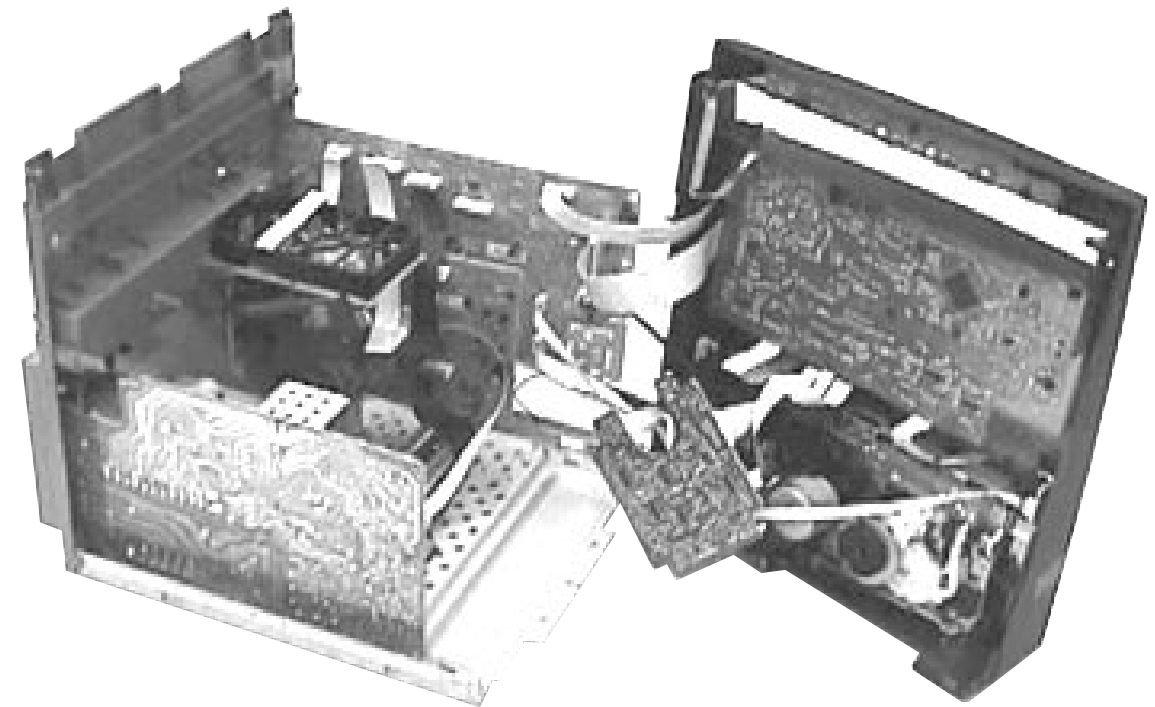
Service position A



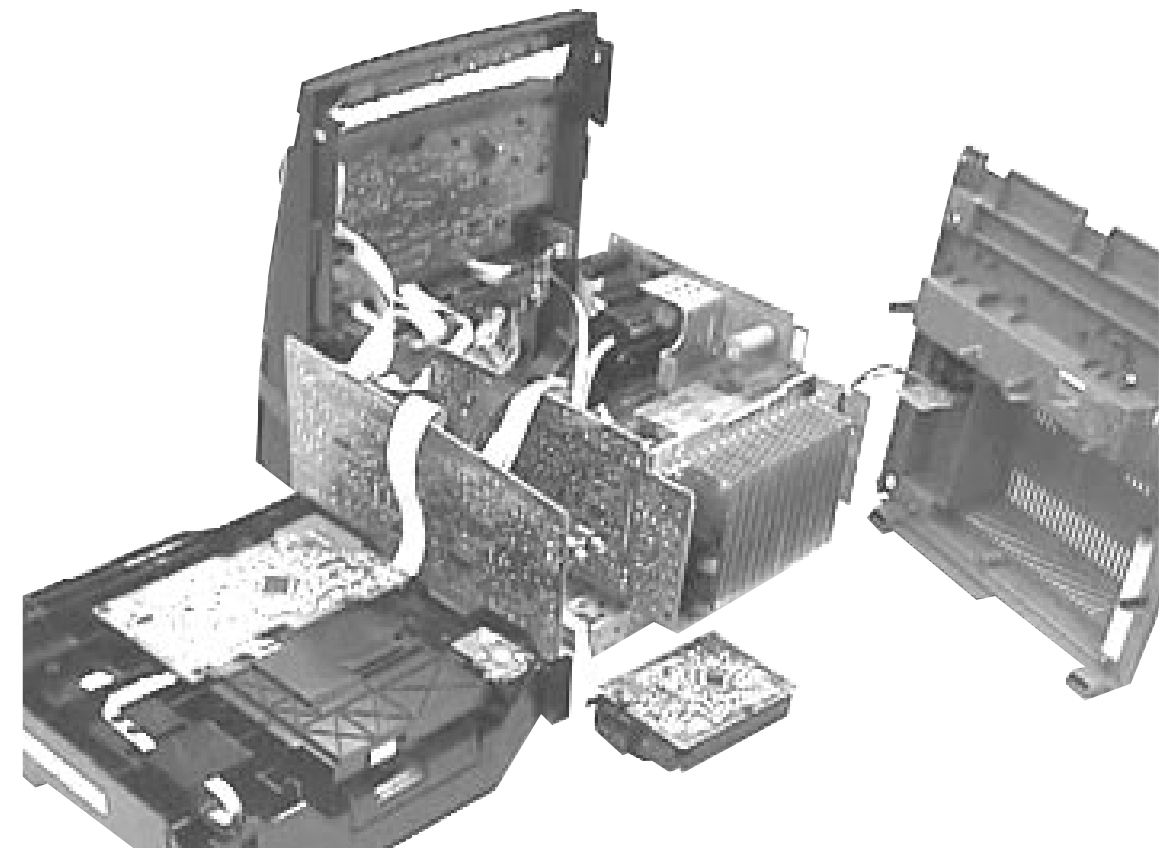
Service position B



Service position C



Service position D



```

graph TD
    Start([Start]) --> D1{TUNER  
Button pressed?}
    D1 -- N --> D2{TUNER  
Button pressed?}
    D1 -- Y --> P1[Display Tuner Version  
"ccc"]
    P1 --> D2
    D2 -- N --> D3{Service frequencies are  
copied to the RAM (see Table 1)  
Tuner works normally except:  
PROGRAM button}
    D2 -- Y --> D3
    D3 --> D4{Disconnect  
Mains cord ?}
    D4 -- N --> D5{Disconnect  
Mains cord ?}
    D4 -- Y --> End([Service Mode left])
    D5 --> End
  
```

Table 1

```

graph TD
    A([To start service test program  
hold ► & Aux  
depressed while  
plugging in the mains cord]) --> B[Display shows the  
ROM version  
"S-Vyy"  
(Main menu)]
  
```

```

graph TD
    Start(( )) --> Decision{STANDBY-ON  
Button pressed?}
    Decision -- N --> Start
    Decision -- Y --> Process[Set is in Service PLAY Mode.  
In case of failures, error codes according to Table 2  
will be displayed.]
    
```

SERVICE PLAY MODE

STANDBY-ON
Button pressed?

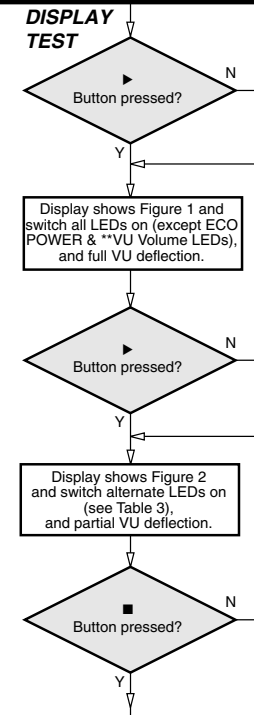
N

Y

Set is in Service PLAY Mode.
In case of failures, error codes according to Table 2
will be displayed.

The Service Play Mode is intended to detect and identify the failures in the CD Mode.

In this mode the electronics will still function even when an error is detected so that repair activities can be carried out.

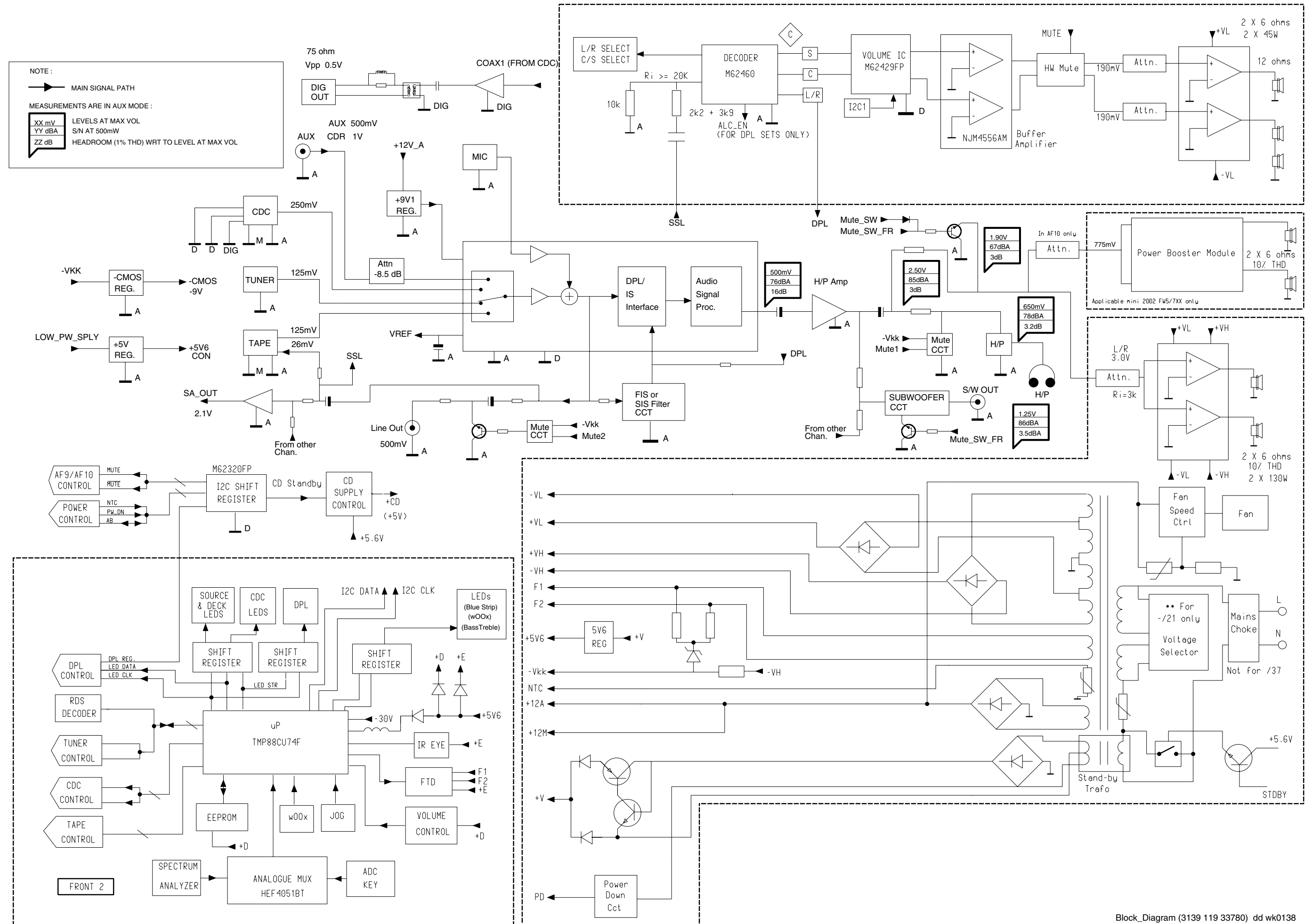
Table 2

** Only applicable for set with VU Volume LED.

Table 3

Various other Tests

SET BLOCK DIAGRAM



AF9/AF10 (1102)
AF10 for Mini 2002 Power Booster Model only

FRONT VU Meter (1107)
Vumeter
+5V6
GND_D
BI0
BI1
1840

FRONT CDC KEYS (1107)
GND_D
Coc3Lit
Coc2Lit
Coc1Lit
Key_Con
GND_B
1800

FRONT CONTROL/KEYS (1107)
wOox A
wOox B
VAC Led
DSC Led
GND_D
DBB / LedShStr
IS Led / LedShData
Max / wOox / LedShClk
+5V6
GND_D
JOS A
JOS B
1600 (12p)
1603 (10p)
1601 (8p)
1602

FRONT DISPLAY/u-P (1101)
Key2
Key1
Key0
GND_B
TunerLed
CD Led
GND_D
Aux Led
Tape Led
1400
1402
1404
1412
1403
1406
19p
1408
1407
1409
1411
1410
1405
1401
FFC AD 06p 140
FFC AD 08p 120
FFC AD 10p 120 (For C 5xx, 7xx Low pwr)
FFC AD 12p 120 (For C7xx High pwr only)
FFC AD 12p 120 (For P750 only)

IR Receiver (1107)
+5V6_Con
GND_B
RC3
20
1

TAPE DD (1104) ETF7
TP_ADC2
TP_ADC1
GND
+F
TP_SH_CLK
TP_SH_DATA
TP_SH_STR
1408
1406
1407
1405
1401
FFC AD 11p 180 (For C5xx & C7xx only)
or
FFC AD 15p 180 (For P750 only)

CD-CHANGER (1105) 3CDC-LC / 3CDC-L2C
CD_Left
GND_A_CD
CD_Right
GND_A_CD
+5V_CD
GND_M
+11V_M
CD_SH_STR
CD_SH_CLK
SW_INFO
SICL
DSH_DATA
DSH_DATA
SILD
GND_D_CD
GND_D_VCD
DSH_STR
DSH_STR
GND_D_CD
GND_D_CD
COAX1
COAX2
SHIELD
GND_D_COAX
SRDT
DQSY
uP_CLK
GND_D_CDTEXT
1805
23
1
1603
MPEG01B
1602
ECHO I/P
MPEG GND
MIC_DET
1705
1508
HR 3P/280/3P
1510
STO-5 1P/280/1P STO-8

AF9 (1102) CVBS
1803
1809
GND_D
1
CBLE STO-8 1P/280/1P OE
1509
HR 2P/280/2P
1705
ECHO I/P
MPEG GND
MIC_DET
48
1
+KARA
VCD_IN1
AGND
VCD_IN2
MIC_DET
5
1705
VCD GND ISOLATOR (1109)
1510
STO-5 1P/280/1P STO-8

TUNER ECO6 (1103)
TU_LEFT
GND_A_TU
TU_RIGHT
+11V_A
TU_ENAB
TU_DATA
TU_CLK
TU_STEREO
1120
1601
FFC AD 08p 220
1501
FFC BD 04p 400
1701
+11V_A
MIC
GND_A
MIC_DET
4
1702
+KARA
VCD_IN1
AGND
VCD_IN2
MIC_DET
5
1702
FFC AD 04p 180
1502
FFC BD 04p 180
1902
SMF 1P/090/1P STO-8
1507
FFC AD 5p 180
1504
STO-5 1P/280/1P STO-8

FRONT MIC-AMP (1107)
HP_LEFT
GND_A
HP_RIGHT
HP_DET
4
1501
FFC BD 04p 400
1701
+11V_A
MIC
GND_A
MIC_DET
4
1702
+KARA
VCD_IN1
AGND
VCD_IN2
MIC_DET
5
1702
FFC AD 04p 180
1502
FFC BD 04p 180
1902
SMF 1P/090/1P STO-8
1507
FFC AD 5p 180
1504
STO-5 1P/280/1P STO-8

FRONT HEADPHONE (1101)
HP_LEFT
GND_A
HP_RIGHT
HP_DET
4
1701
+11V_A
MIC
GND_A
MIC_DET
4
1702
+KARA
VCD_IN1
AGND
VCD_IN2
MIC_DET
5
1702
FFC AD 04p 180
1502
FFC BD 04p 180
1902
SMF 1P/090/1P STO-8
1507
FFC AD 5p 180
1504
STO-5 1P/280/1P STO-8

DPL C/S AMP (1106)
DPL_LEFT
GND_A
DPL_RIGHT
SS_RIGHT
GND_A
SS_LEFT
+11V_A
DPL_STR
DPL_VOL_CLK
GND_D
DPL_DATA
DPL_CLK
AMP_MUTE
AMP_CS_DC
1700
14
1305
HR 04p/280/04p OE
1314
1

MAIN BOARD (1106)
1913
1912
A1
B1
GND_D
GND_D
B2
A2
+D
GND
+D2
1203
1251
1250
1259/60/61 (11p/12p/13p)
AMP_LEFT
GND_AA
AMP_RIGHT
NTC
LOW_PWR_CTRL
PWR_DN
CLIPPING
AMP_ON
-VKK
F1
F2
AMP_CS_DC
VCD_ON
DVD_ON
1300
1202
FFC AD 11p 220 (For C 5xx & 7xx)
or
FFC AD 12p 220 (For P750 only)
or
FFC AD 13p 220 (For VCD only)
1306 (13p)
1262/3 (7p/8p)
LOW_PWR_SPLY
+11V_A
GND_A
+11V_M
GND_M
+5V6
GND_D
5V_VCD
1310 (8p)
1252
1304
-VKK
F1
F2
PWR_DN
NTC
L_PWR_CTRL
L_PWR_S
1252
1304
1204
1203
FFC AD 07p 340
1914
1209
1304
HR 04p/280/04p OE
1305
HR 04p/280/04p OE
1314
1

MATRIX SURR (1108)
LS SL/SR
(Only for FW-C720)
1315
1

Power Booster Module
For Mini 2002 FW-C798, FW-V795 Only
Power Booster In
Power Booster Out
1550

LEGEND
□ FFC TOP ENTRY
■ FFC SIDE ENTRY
○ EH TOP ENTRY
● EH SIDE ENTRY
△ DIPMATE
▲ SPARE
P PROVISION

Notes:
* For POWER 2001 Module (30-70W Version) Only.
For VCD Only.
Note : Some values may varies, see respective parts list for correct value.

REMARKS :

FRONT CONTROL BOARD

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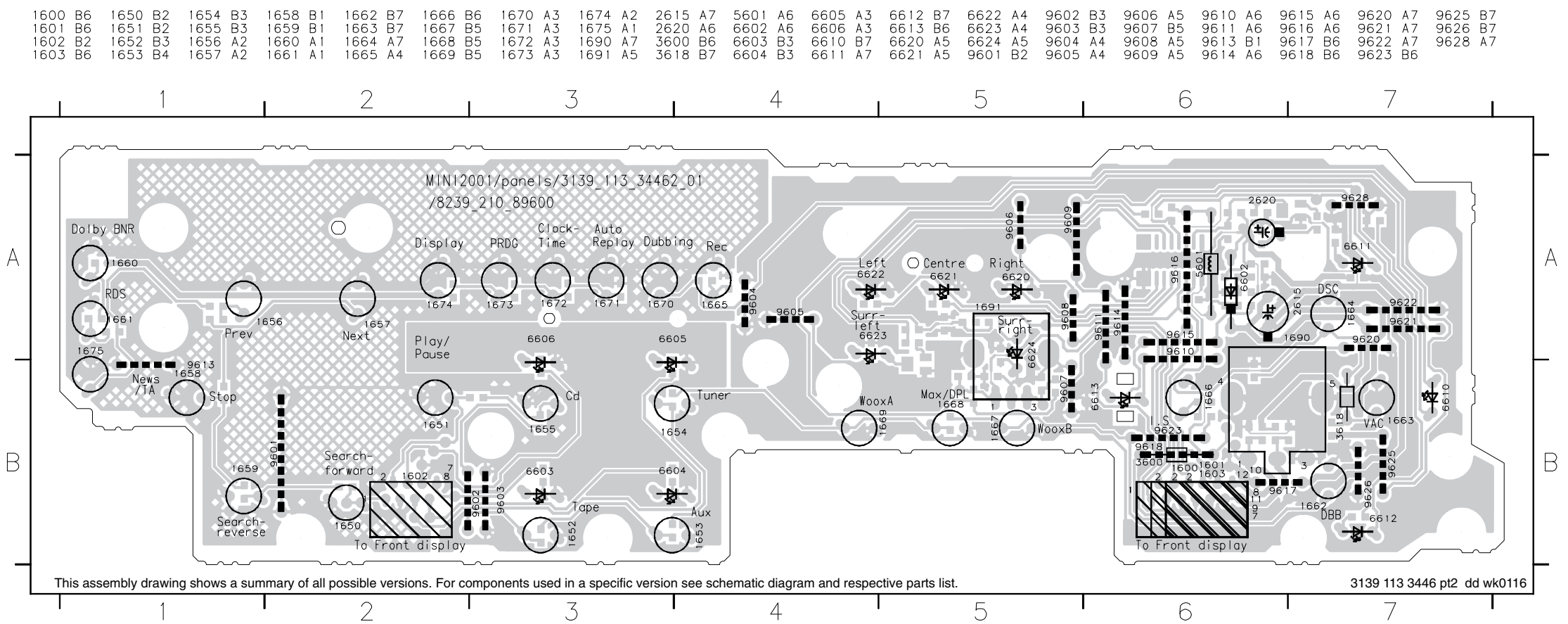
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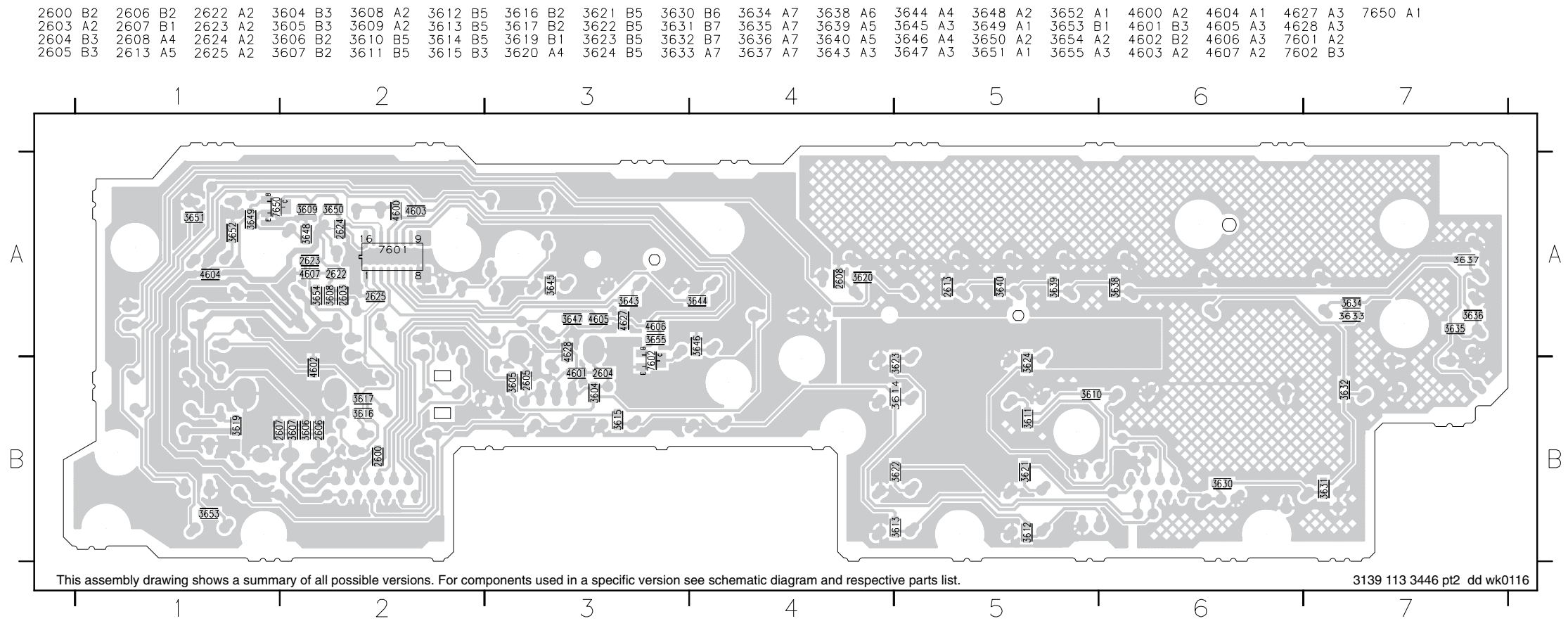
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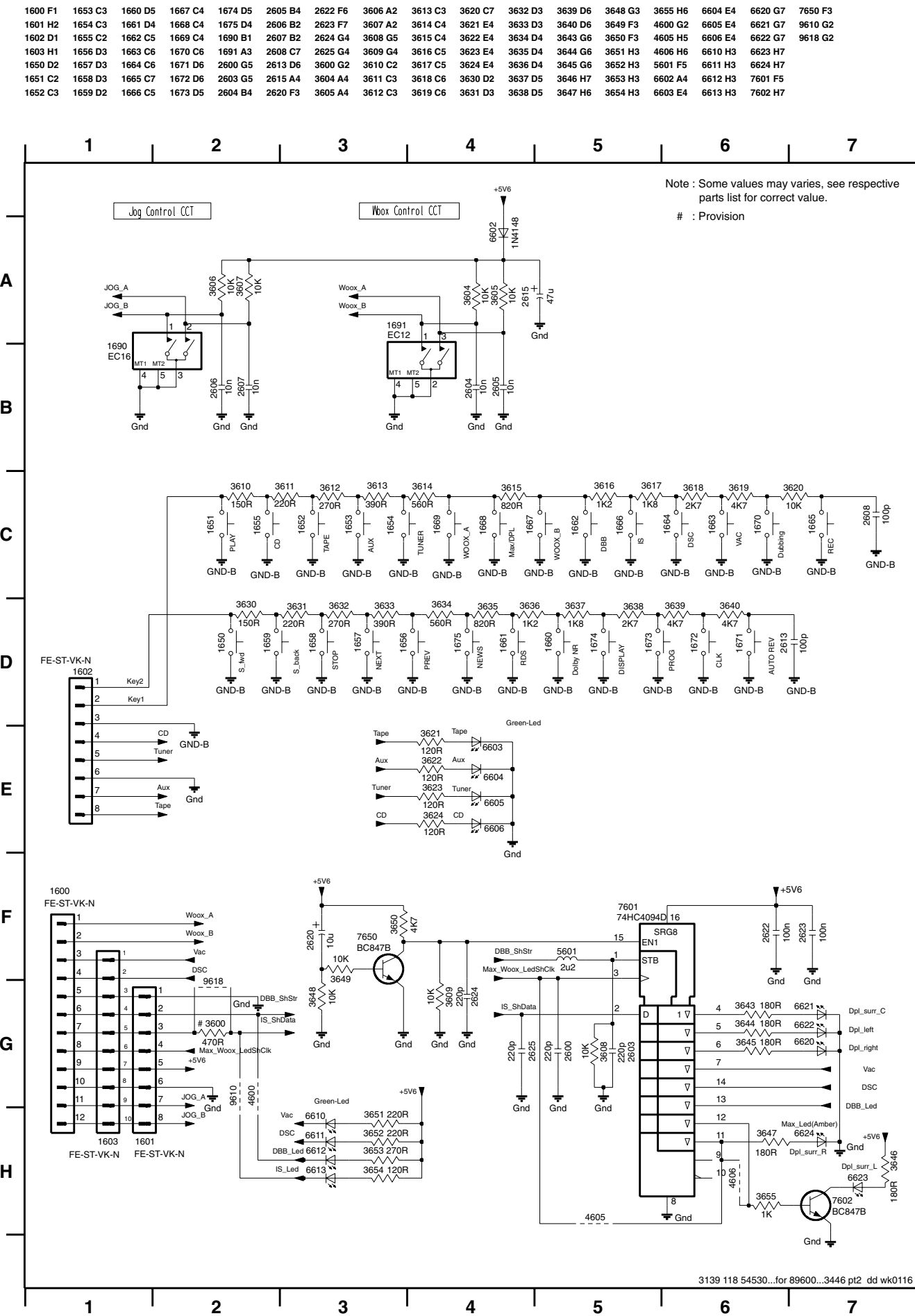
FRONT CONTROL BOARD - COMPONENT LAYOUT



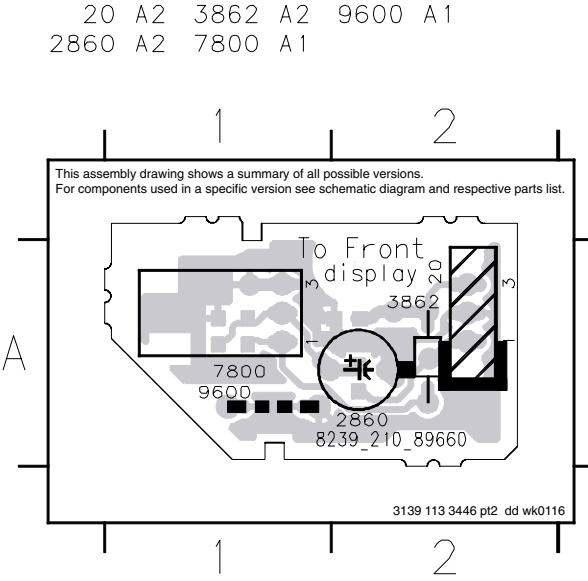
FRONT CONTROL BOARD - CHIP LAYOUT



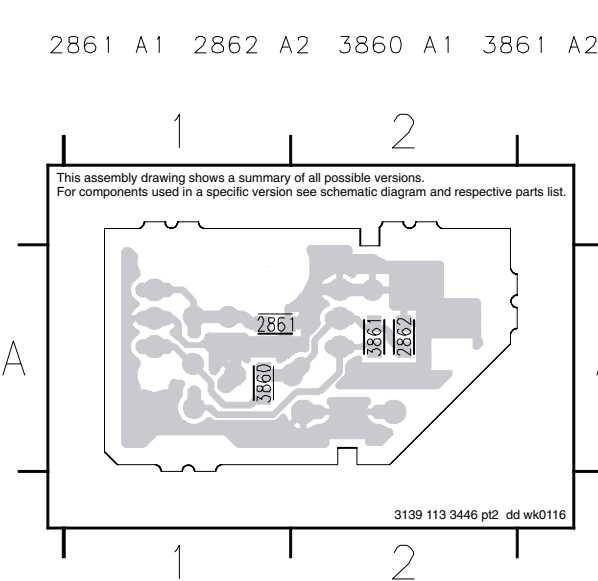
FRONT CONTROL BOARD - CIRCUIT DIAGRAM



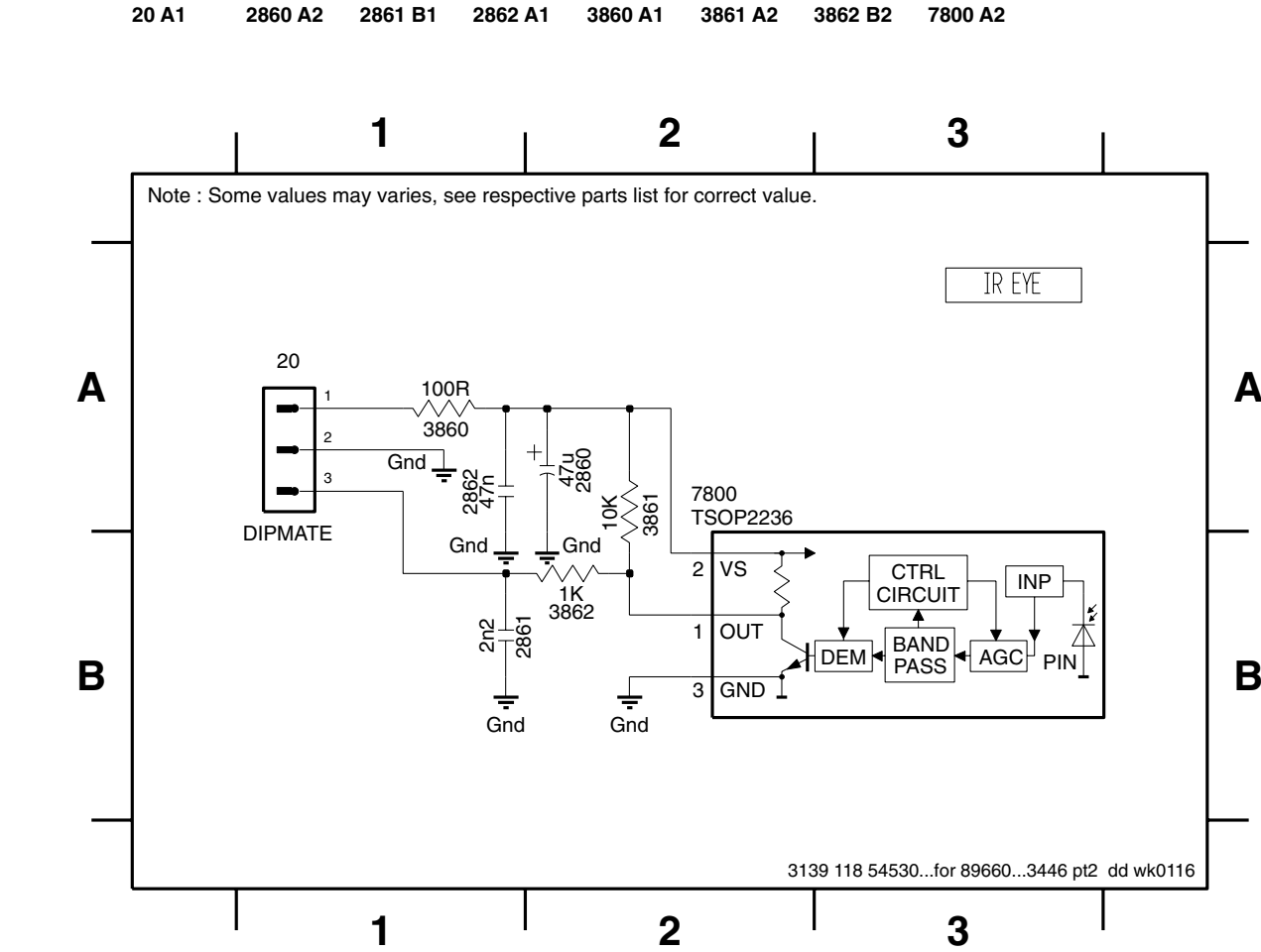
IR-EYE BOARD - COMPONENT LAYOUT



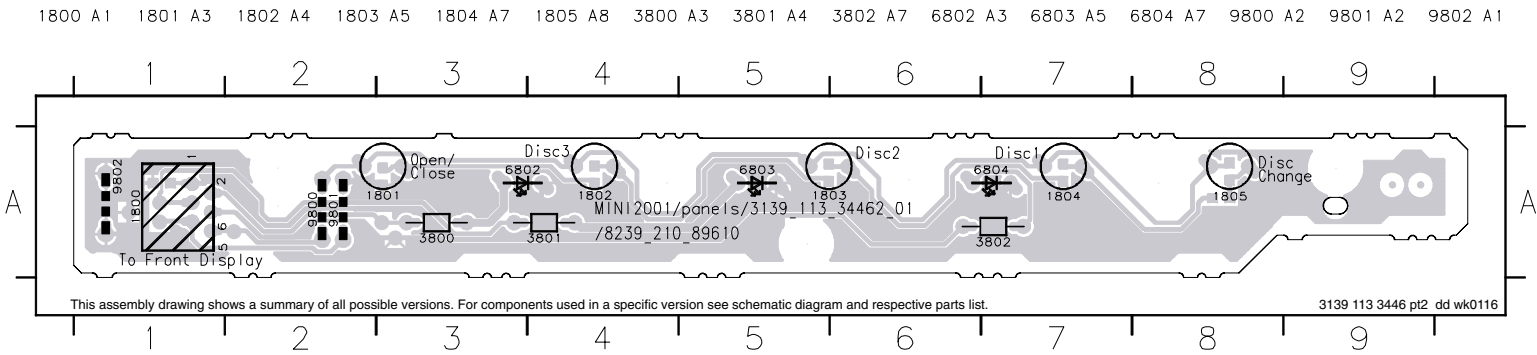
IR-EYE BOARD - CHIP LAYOUT



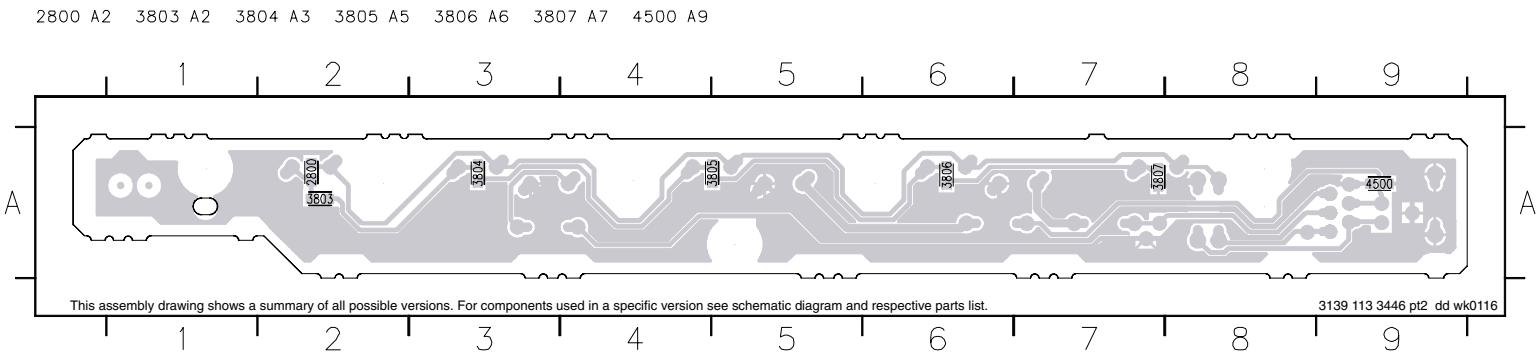
IR-EYE BOARD - CIRCUIT DIAGRAM



KEY-CDC BOARD - COMPONENT LAYOUT

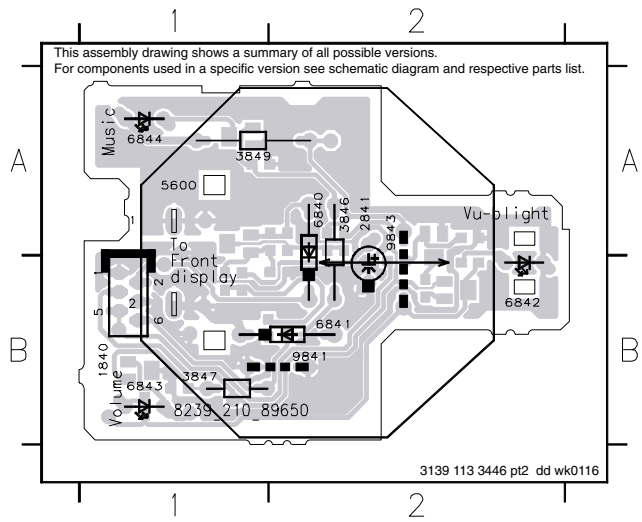


KEY-CDC BOARD - CHIP LAYOUT



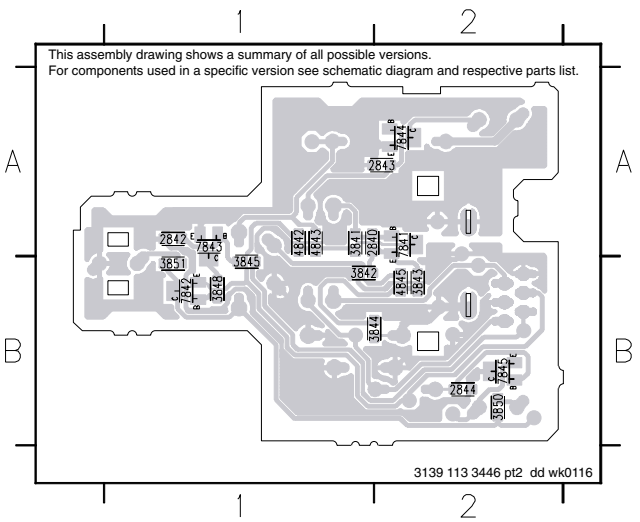
VU METER BOARD - COMPONENT LAYOUT

1840 B1 3846 A2 3849 A1 6840 A2 6842 B2 6844 A1 9843 A2
2841 A2 3847 B1 5600 A1 6841 B2 6843 B1 9841 B2

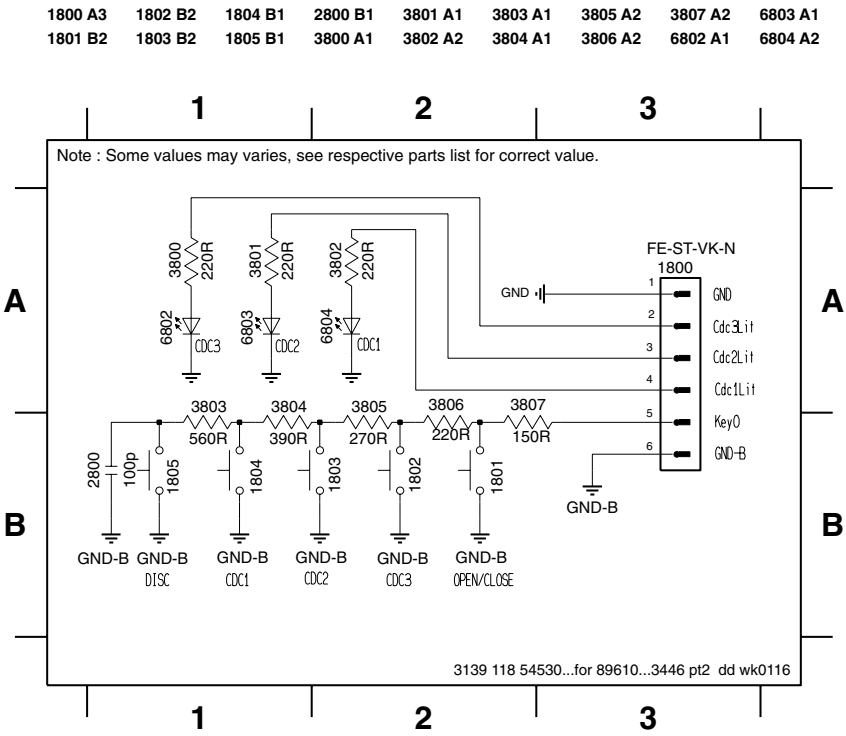


VU METER BOARD - CHIP LAYOUT

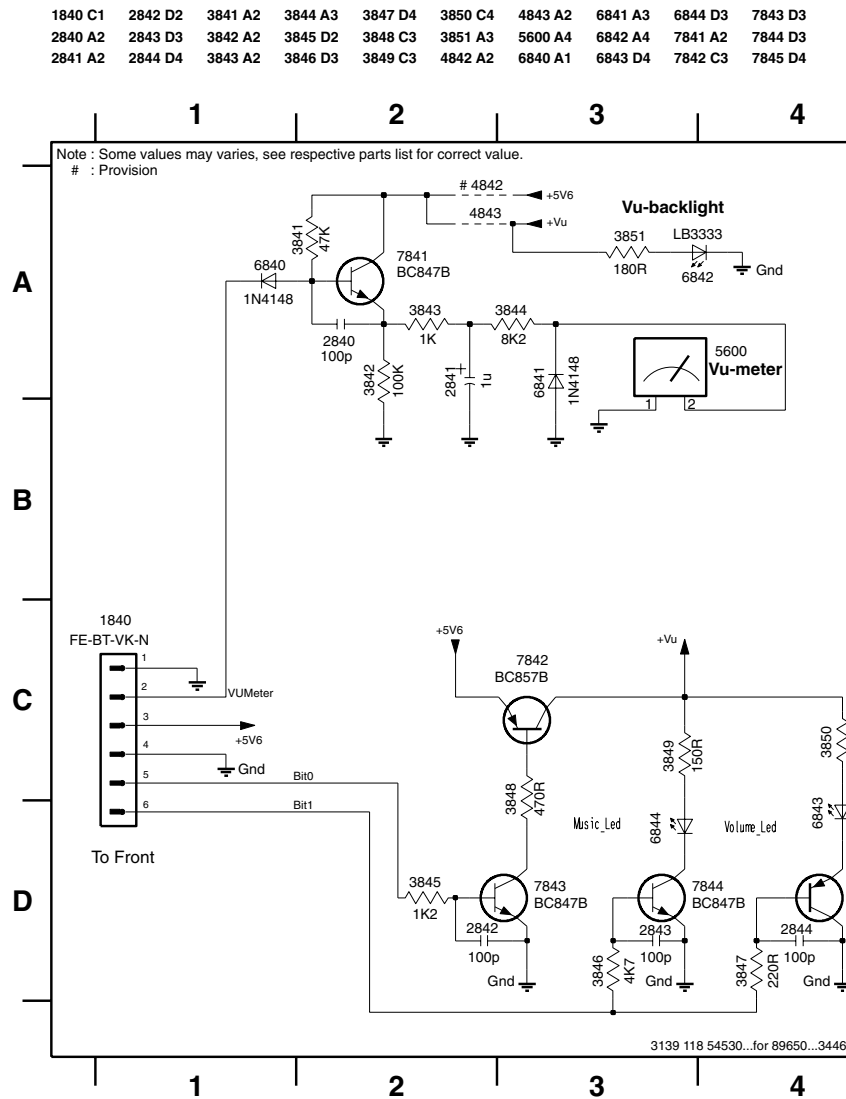
2840 A1 2844 B2 3843 B2 3848 B1 4842 A1 7841 A2 7844 A2
2842 A1 3841 A1 3844 B1 3850 B2 4843 A1 7842 B1 7845 B2
2843 A2 3842 B1 3845 B1 3851 B1 4845 B2 7843 A1



KEY-CDC BOARD - CIRCUIT DIAGRAM

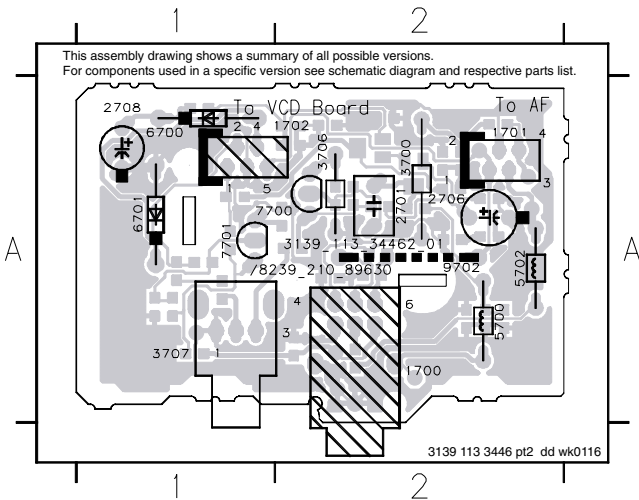


VU METER BOARD - CIRCUIT DIAGRAM



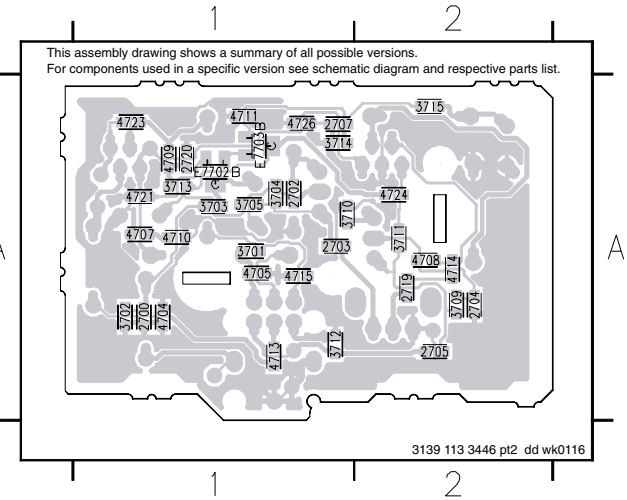
KARAOKE BOARD - COMPONENT LAYOUT

1700 A2 2701 A2 3700 A2 5700 A2 6701 A1 9702 A2
1701 A2 2706 A2 3706 A2 5702 A2 7700 A1 7701 A1
1702 A2 2708 A1 3707 A1 6700 A1 7701 A1



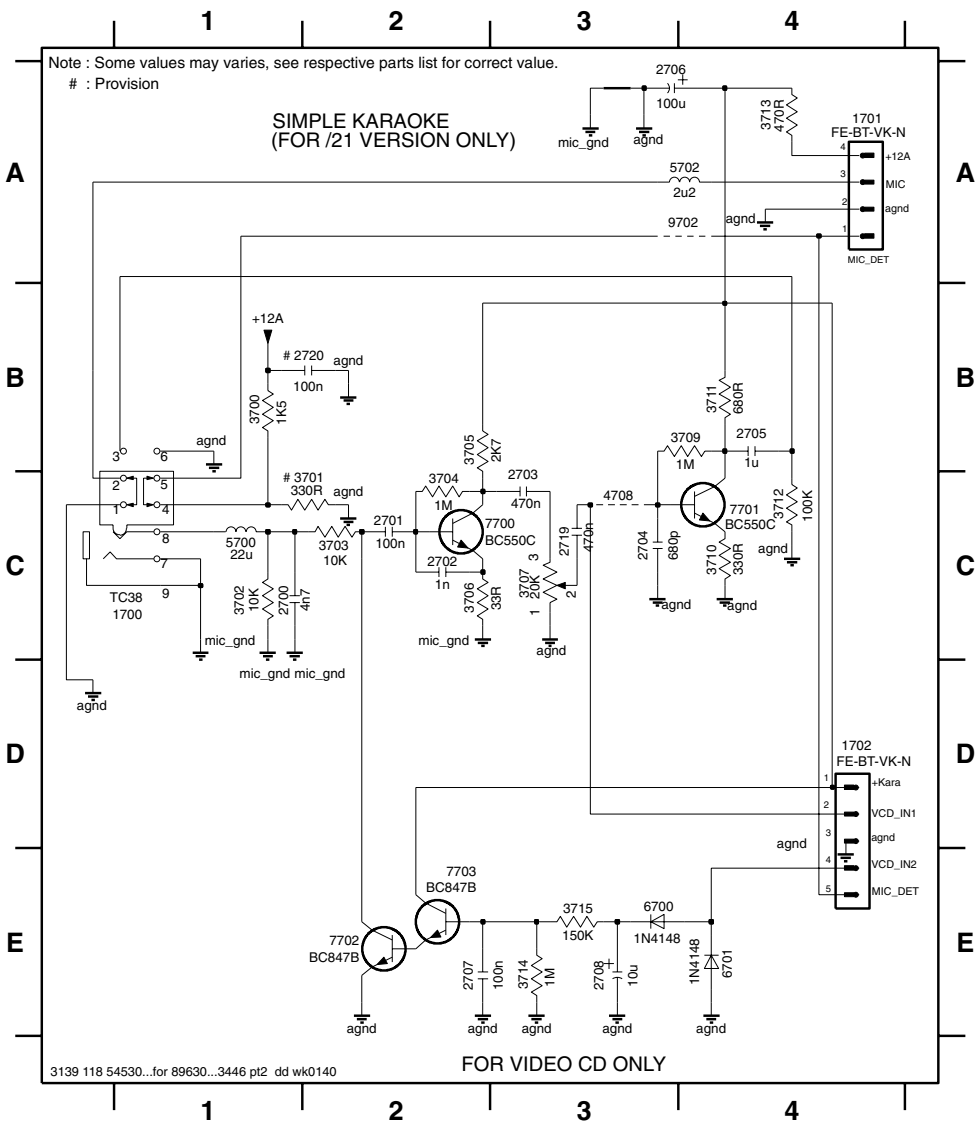
KARAOKE BOARD - CHIP LAYOUT

2700 A1 2719 A2 3705 A1 3714 A1 4709 A1 4721 A1
2702 A1 2720 A1 3709 A2 3715 A2 4710 A1 4723 A1
2703 A1 3701 A1 3710 A1 4704 A1 4711 A1 4724 A2
2704 A2 3702 A1 3711 A2 4705 A1 4713 A1 4726 A1
2705 A2 3703 A1 3712 A1 4707 A1 4714 A2 7702 A1
2707 A1 3704 A1 3713 A1 4708 A2 4715 A1 7703 A1



KARAOKE BOARD - CIRCUIT DIAGRAM

1700 C1 2700 C1 2703 C3 2706 A3 2719 C3 3701 C2 3704 C2 3707 C3 3711 B4 3714 E3 5700 C1 6701 E4 7702 E2
1701 A4 2701 C2 2704 C3 2707 E2 2720 B2 3702 C1 3705 B2 3709 B4 3712 C4 3715 E3 5702 A4 7700 C2 7703 E2
1702 D4 2702 C2 2705 B4 2708 E3 3700 B1 3703 C2 3706 C2 3710 C4 3713 A4 4708 C3 6700 E3 7701 C4 9702 A4



ELECTRICAL PARTS LIST - FRONT CONTROL BOARD

MISCELLANEOUS

1602	4822 265 11535	Flex Connector 8P
1603	4822 265 11208	Flex Connector 10P
1650	4822 276 13775	Tact Switch
1651	4822 276 13775	Tact Switch
1652	4822 276 13775	Tact Switch
1653	4822 276 13775	Tact Switch
1654	4822 276 13775	Tact Switch
1655	4822 276 13775	Tact Switch
1656	4822 276 13775	Tact Switch
1657	4822 276 13775	Tact Switch
1658	4822 276 13775	Tact Switch
1659	4822 276 13775	Tact Switch
1662	4822 276 13775	Tact Switch
1663	4822 276 13775	Tact Switch
1664	4822 276 13775	Tact Switch
1665	4822 276 13775	Tact Switch
1666	4822 276 13775	Tact Switch
1668	4822 276 13775	Tact Switch
1670	4822 276 13775	Tact Switch
1671	4822 276 13775	Tact Switch
1672	4822 276 13775	Tact Switch
1673	4822 276 13775	Tact Switch
1674	4822 276 13775	Tact Switch
1690	2422 129 16385	Rotary Encoder 12P
1800	4822 265 11207	Flex Connector 6P
1801	4822 276 13775	Tact Switch
1802	4822 276 13775	Tact Switch
1803	4822 276 13775	Tact Switch
1804	4822 276 13775	Tact Switch
1805	4822 276 13775	Tact Switch
1840	4822 267 10731	Flex Connector 6P

CAPACITORS

2606	5322 126 11583	10nF 10% 50V
2607	5322 126 11583	10nF 10% 50V
2608	4822 122 31765	100pF 2% 63V
2613	4822 122 31765	100pF 2% 63V
2615	4822 124 12233	47uF 20% 25V
2622	4822 126 14305	100nF 10% 16V
2623	4822 126 14305	100nF 10% 16V
2800	4822 122 31765	100pF 2% 63V
2840	4822 122 31765	100pF 2% 63V
2841	4822 124 22651	1uF 20% 50V
2842	4822 122 31765	100pF 2% 63V
2860	4822 124 81286	47uF 20% 16V
2861	4822 126 14238	2,2nF 50V
2862	3198 017 34730	47nF 16V

RESISTORS

3606	4822 051 30103	10k 5% 0,062W
3607	4822 051 30103	10k 5% 0,062W
3610	4822 051 30151	150R 5% 0,062W

3611	4822 051 30221	220R 5% 0,062W
3612	4822 051 30271	270R 5% 0,062W
3613	4822 051 30391	390R 5% 0,062W
3614	4822 051 30561	560R 5% 0,062W
3615	4822 117 12968	820R 5% 0,62W
3616	4822 117 11817	1k2 1% 1/16W
3617	4822 117 12903	1k8 1% 0,063W
3618	4822 116 52263	2k7 5% 0,5W
3619	4822 051 30472	4k7 5% 0,062W
3620	4822 051 30103	10k 5% 0,062W
3621	4822 051 30121	120R 5% 0,062W
3622	4822 051 30121	120R 5% 0,062W
3623	4822 051 30121	120R 5% 0,062W
3624	4822 051 30121	120R 5% 0,062W
3630	4822 051 30151	150R 5% 0,062W
3631	4822 051 30221	220R 5% 0,062W
3632	4822 051 30271	270R 5% 0,062W
3633	4822 051 30391	390R 5% 0,062W
3634	4822 051 30561	560R 5% 0,062W
3635	4822 117 12968	820R 5% 0,62W
3636	4822 117 11817	1k2 1% 1/16W
3637	4822 117 12903	1k8 1% 0,063W
3638	4822 051 30272	2k7 5% 0,062W
3639	4822 051 30472	4k7 5% 0,062W
3640	4822 051 30103	10k 5% 0,062W
3647	4822 051 30181	180R 5% 0,062W
3651	4822 051 30221	220R 5% 0,062W
3652	4822 051 30221	220R 5% 0,062W
3653	4822 051 30271	270R 5% 0,062W
3654	4822 051 30121	120R 5% 0,062W
3800	4822 116 83872	220R 5% 0,5W
3801	4822 116 83872	220R 5% 0,5W
3802	4822 116 83872	220R 5% 0,5W
3803	4822 051 30561	560R 5% 0,062W
3804	4822 051 30391	390R 5% 0,062W
3805	4822 051 30271	270R 5% 0,062W
3806	4822 051 30221	220R 5% 0,062W
3807	4822 051 30151	150R 5% 0,062W
3841	4822 117 12925	47k 1% 0,063W
3842	4822 117 13632	100k 1% 0,62W
3843	4822 051 30102	1k 5% 0,062W
3844	4822 117 12902	8k2 1% 0,063W
3845	4822 117 11817	1k2 1% 1/16W
3848	4822 051 30471	470R 5% 0,062W
3851	4822 051 30181	180R 5% 0,062W
3860	4822 051 30101	100R 5% 0,062W
3861	4822 051 30103	10k 5% 0,062W
3862	4822 050 11002	1k 1% 0,4W
4500	4822 051 30008	0R Jumper 0603
4600	4822 051 30008	0R Jumper 0603
4601	4822 051 30008	0R Jumper 0603
4602	4822 051 30008	0R Jumper 0603

ELECTRICAL PARTS LIST - FRONT CONTROL BOARD

RESISTORS

4603	4822 051 30008	0R Jumper 0603
4604	4822 051 30008	0R Jumper 0603
4605	4822 051 30008	0R Jumper 0603
4607	4822 051 30008	0R Jumper 0603
4627	4822 051 30008	0R Jumper 0603
4628	4822 051 30008	0R Jumper 0603
4843	4822 051 30008	0R Jumper 0603
4845	4822 051 30008	0R Jumper 0603

COILS & FILTERS

5600	3139 110 53010	METER VU P-47SI-C AMBER
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DIODES

6602	4822 130 30621	1N4148
6603	4822 130 10791	LTL-1CHGE
6604	4822 130 10791	LTL-1CHGE
6605	4822 130 10791	LTL-1CHGE
6606	4822 130 10791	LTL-1CHGE
6610	4822 130 10791	LTL-1CHGE
6611	4822 130 10791	LTL-1CHGE
6612	4822 130 82978	LTL-1CHPE
6613	4822 130 10791	LTL-1CHGE
6624	4822 130 11589	LTL-1CHAE
6802	4822 130 10791	LTL-1CHGE
6803	4822 130 10791	LTL-1CHGE
6804	4822 130 10791	LTL-1CHGE
6840	4822 130 30621	1N4148
6841	4822 130 30621	1N4148
6842	9322 172 75676	LED VS LTL-1CHKFK

TRANSISTORS & INTEGRATED CIRCUITS

7800	9322 155 22667	IR Receiver TSOP2236ZC1
7841	4822 130 60511	BC847B
7842	4822 130 60373	BC857B
7843	4822 130 60511	BC847B

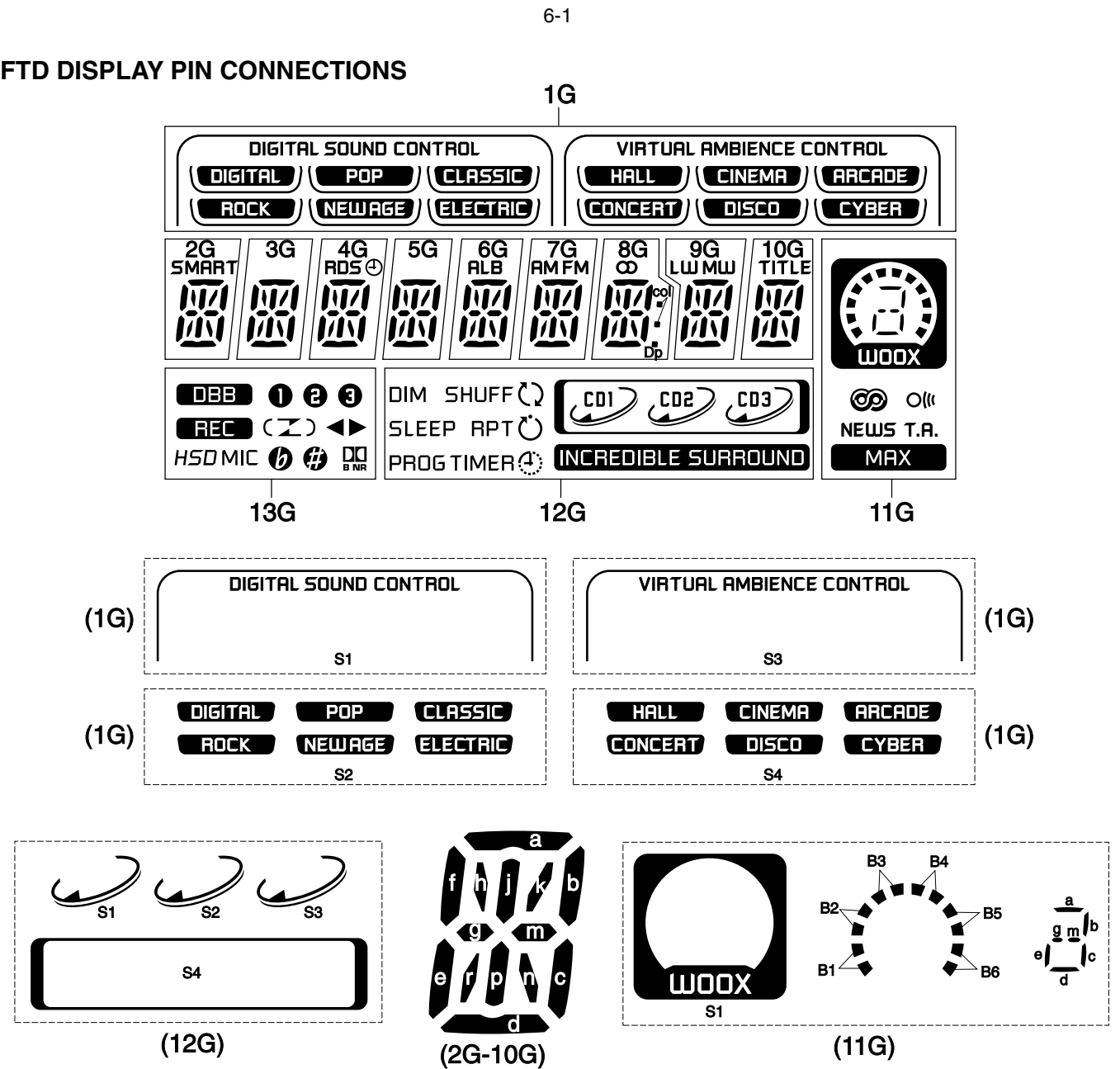
Note : Only the parts mentioned in this list are normal
service spare parts.

FRONT DISPLAY BOARD

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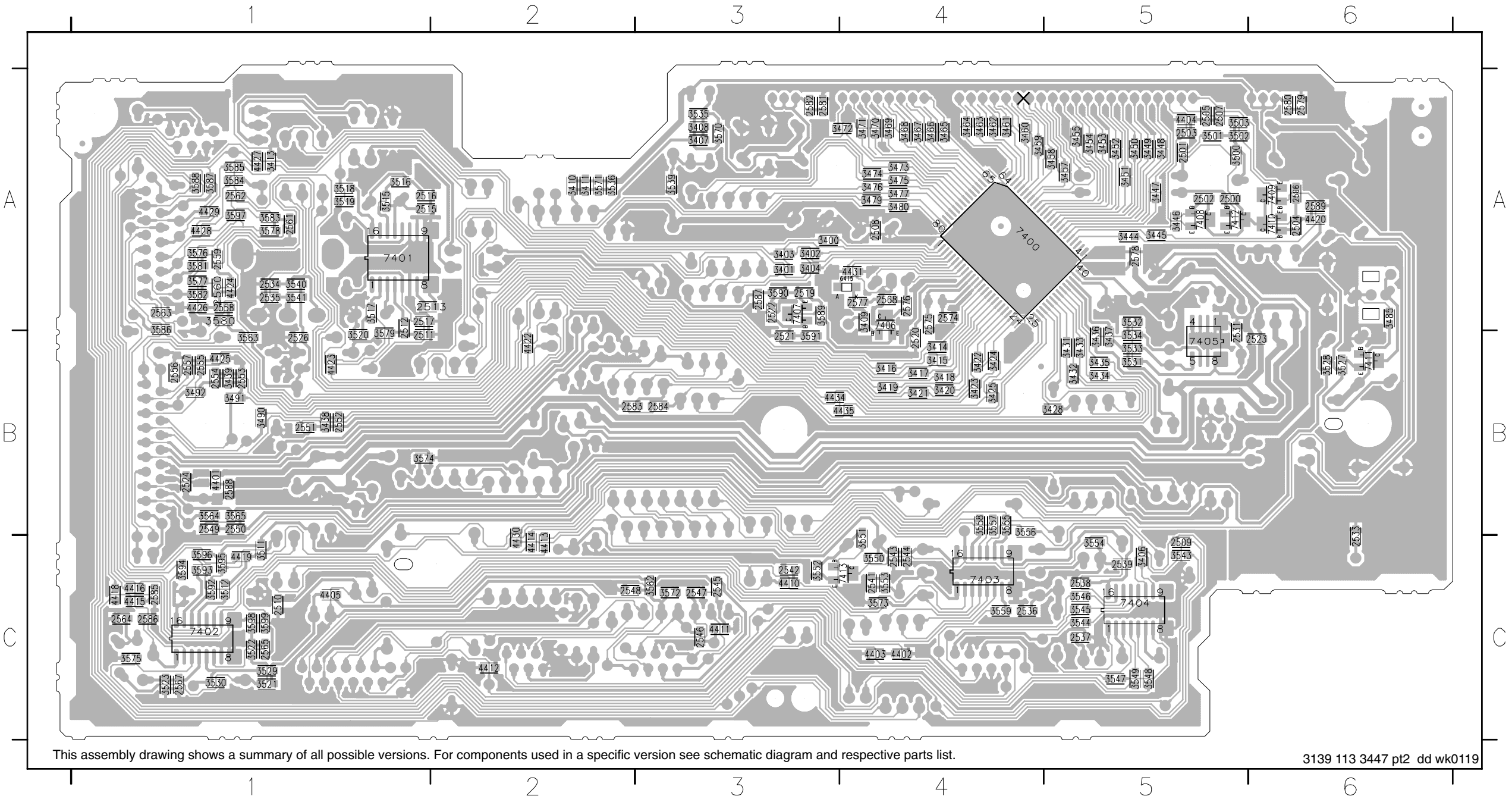
FTD DISPLAY PIN CONNECTIONS



	1G	2G	3G	4G	5G	6G	7G	8G	9G	10G	11G	12G	13G
P1	S1	a	a	a	a	a	a	a	a	a	S1	DIM	DBB
P2	S2	h	h	h	h	h	h	h	h	h	B1	SHUFF	1
P3	(CLASSIC)	j, p	j, p	j, p	j, p	j, p	j, p	j, p	j, p	j, p	B2	SLEEP	2
P4	(POP)	k	k	k	k	k	k	k	k	k	B3	RPT	3
P5	(DIGITAL)	b	b	b	b	b	b	b	b	b	B4	PROG	REC
P6	(ELECTRIC)	f	f	f	f	f	f	f	f	f	B5	TIMER	C
P7	(NEWAGE)	m	m	m	m	m	m	m	m	m	B6	CD1	Z
P8	(ROCK)	g	g	g	g	g	g	g	g	g	a,g,m,d	S1)
P9	S3	c	c	c	c	c	c	c	c	c	b	CD2	◀
P10	S4	e	e	e	e	e	e	e	e	e	c	S2	▶
P11	(ARCADE)	r	r	r	r	r	r	r	r	r	e	CD3	HSD
P12	(CINEMA)	n	n	n	n	n	n	n	n	n	☺	S3	MIC
P13	(HALL)	d	d	d	d	d	d	d	d	d	O	S4	b
P14	(CYBER)	SMART	-	RDS	-	ALB	AM	∞	LW	TITLE	NEWS	INCREDIBLE SURROUND	#
P15	(DISCO)	-	-	-	-	-	FM	col	MW	-	T.A.	-	B NR
P16	(CONCERT)	-	-	-	-	-	-	Dp	-	-	MAX	-	-

FRONT DISPLAY BOARD - CHIP LAYOUT

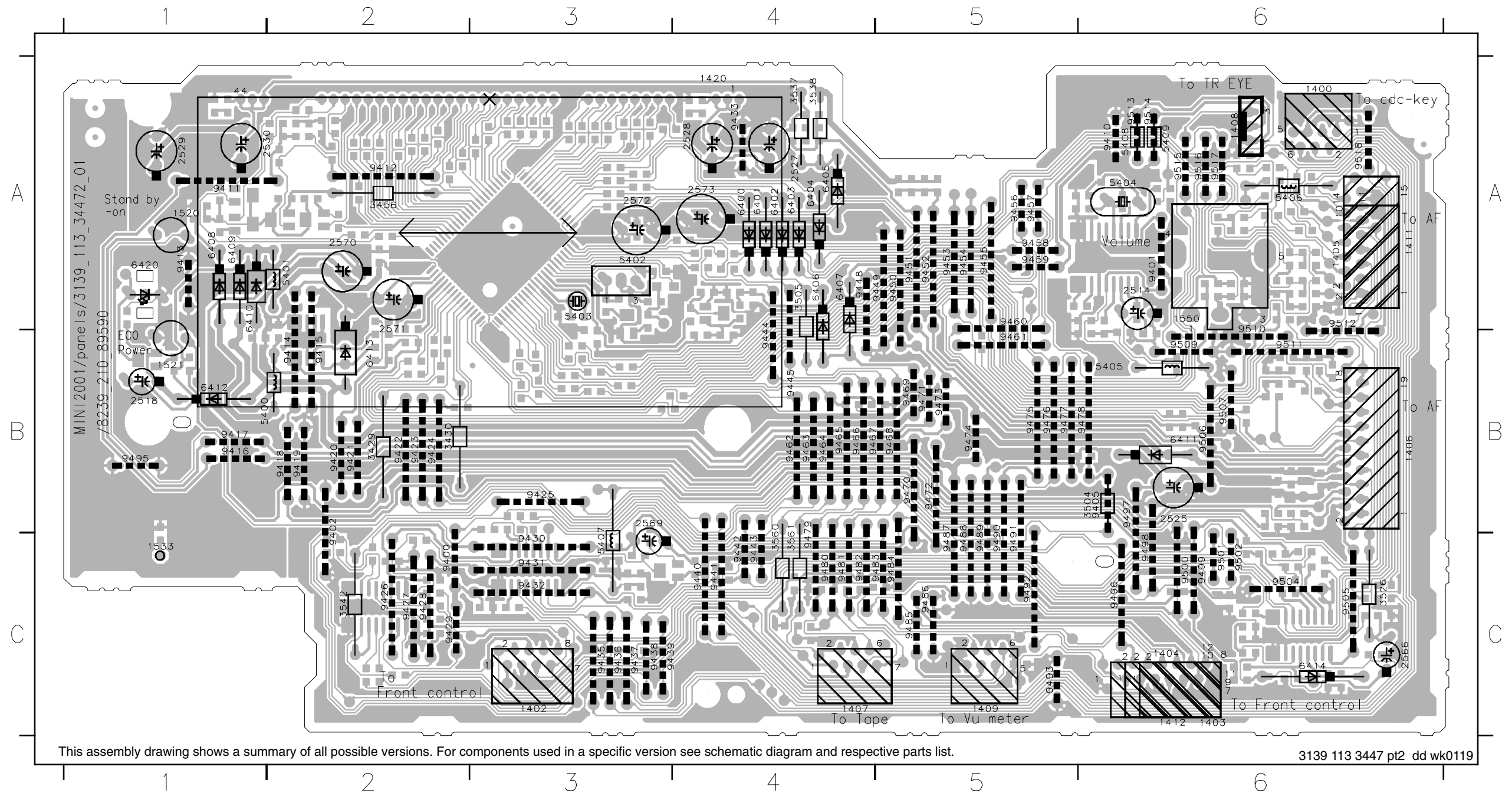
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2501 A5	2513 A2	2533 C6	2546 C3	2558 A1	2576 A4	2588 B1	3411 A2	3424 B4	3444 A5	3457 A5	3469 A4	3490 B1	3518 A1	3533 B5	3548 C5	3562 C3	3578 A1	3590 A3	4403 C4	4420 A6	4435 B4	7410 A6
2502 A5	2515 A1	2534 A1	2547 C3	2559 A1	2577 A4	2589 A6	3413 A1	3425 B4	3445 A5	3458 A5	3470 A4	3491 B1	3519 A1	3534 B5	3549 C5	3563 B1	3579 B1	3591 B3	4404 A5	4422 B2	6415 A4	7411 B6
2503 A5	2516 A1	2535 A1	2548 C2	2560 A1	2578 A5	3400 A3	3414 B4	3428 B5	3446 A5	3459 A4	3471 A4	3492 B1	3520 B1	3535 A3	3550 C4	3564 B1	3580 A1	3592 C1	4405 C1	4423 B1	7400 A4	7412 A5
2504 A6	2517 A1	2536 C4	2549 B1	2561 A1	2579 A6	3401 A3	3415 B4	3431 B5	3447 A5	3460 A4	3472 A4	3500 A5	3521 C1	3536 A2	3551 C4	3565 B1	3581 A1	3593 C1	4410 C3	4424 A1	7401 A1	7413 C4
2505 A5	2519 A3	2537 C5	2550 B1	2562 A1	2580 A6	3402 A3	3416 B4	3432 B5	3448 A5	3461 A4	3473 A4	3501 A5	3522 C1	3539 A3	3552 C3	3570 A3	3582 A1	3594 C1	4411 C3	4425 B1	7402 C1	
2506 A6	2520 B4	2538 C5	2551 B1	2563 A1	2581 A3	3403 A3	3417 B4	3433 B5	3449 A5	3462 A4	3474 A4	3502 A5	3523 C1	3540 A1	3553 C4	3571 A2	3583 A1	3595 C1	4412 C2	4426 A1	7403 C4	
2507 A5	2521 B3	2539 C5	2552 B1	2564 C1	2582 A3	3404 A3	3418 B4	3434 B5	3450 A5	3463 A4	3475 A4	3503 A5	3527 B6	3541 A1	3554 C5	3572 C3	3584 A1	3596 C1	4413 C2	4427 A1	7404 C5	
2508 A4	2522 A3	2541 C4	2553 B1	2565 C1	2583 B2	3406 C5	3419 B4	3435 B5	3451 A5	3464 A4	3476 A4	3511 C1	3528 B6	3543 C5	3555 B4	3573 C4	3585 A1	3597 A1	4414 C2	4428 A1	7405 B5	
2509 C5	2523 B6	2542 C3	2554 B1	2567 C1	2584 B3	3407 A3	3420 B4	3436 B5	3452 A5	3465 A4	3477 A4	3512 C1	3529 C1	3544 C5	3556 B4	3574 B1	3586 A1	3598 C1	4415 C1	4429 A1	7406 A4	
2510 C1	2524 B1	2543 C4	2555 B1	2568 A4	2585 C1	3408 A3	3421 B4	3437 B5	3453 A5	3466 A4	3479 A4	3515 A1	3530 C1	3545 C5	3557 B4	3575 C1	3587 A1	3599 C1	4416 C1	4430 C2	7407 A3	
2511 B1	2526 B1	2544 C4	2556 B1	2574 A4	2586 C1	3409 A4	3422 B4	3438 B1	3454 A5	3467 A4	3480 A4	3516 A1	3531 B5	3546 C5	3558 B4	3576 A1	3588 A1	4401 B1	4418 C1	4431 A4	7408 A5	



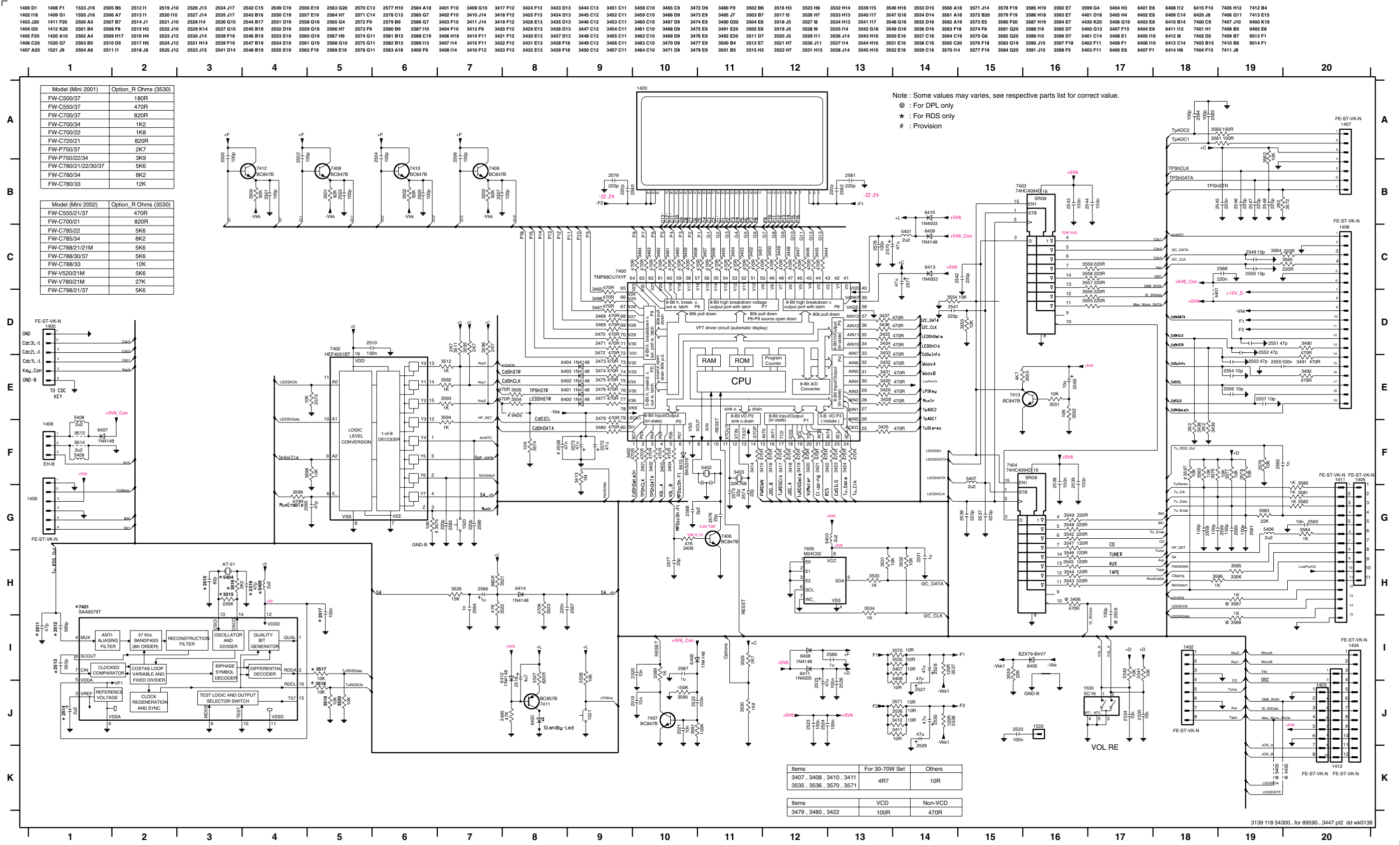
This assembly drawing shows a summary of all possible versions. For components used in a specific version see schematic diagram and respective parts list.

3139 113 3447 pt2 dd wk0119

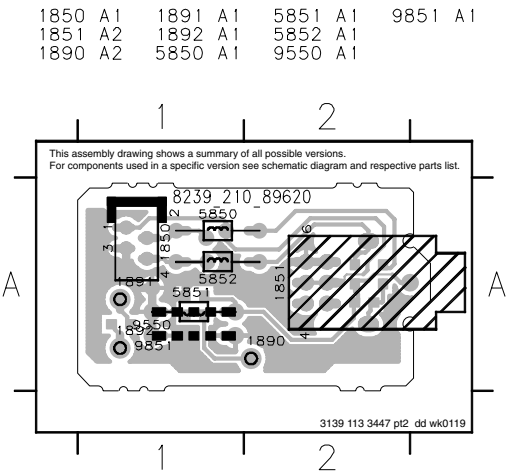
1400	A6	1409	C5	2514	A6	2569	B3	3504	B6	5400	B1	5408	A6	6406	A4	6414	C6	9412	A2	9420	B2	9428	C2	9437	C3	9445	B4	9455	A5	9463	B4	9471	B5	9479	C4	9487	C5	9496	C6	9505	C6	9514	A6
1402	C3	1411	A6	2518	B1	2570	A2	3505	A4	5401	A2	5409	A6	6407	A4	6420	A1	9413	A1	9421	B2	9429	C2	9438	C3	9448	A4	9456	A5	9464	B4	9472	B5	9480	C4	9488	C5	9497	B6	9506	B6	9515	A6
1403	C6	1412	C6	2525	B6	2571	A2	3526	C6	5402	A3	6400	A4	6408	A1	9400	C2	9414	B2	9422	B2	9430	C3	9439	C3	9449	A5	9457	A5	9465	B4	9473	B5	9481	C4	9489	C5	9498	C6	9507	B6	9516	A6
1404	C6	1420	A4	2527	A4	2572	A3	3537	A4	5403	A3	6401	A4	6409	A1	9401	A6	9415	B2	9423	B2	9431	C3	9440	C4	9450	A5	9458	A5	9466	B4	9474	B5	9482	C4	9490	C5	9499	C6	9509	B6	9517	A6
1405	A6	1520	A1	2528	A4	2573	A4	3538	A4	5404	A6	6402	A4	6410	A1	9402	B2	9416	B1	9424	B2	9432	C3	9441	C4	9451	A5	9459	A5	9467	B4	9475	B5	9483	C5	9491	C5	9500	C6	9510	A6	9518	A6
1406	B6	1521	B1	2529	A1	3429	B2	3542	C2	5405	B6	6403	A4	6411	B6	9405	B6	9417	B1	9425	B3	9433	A4	9442	C4	9452	A5	9460	A5	9468	B5	9476	B5	9484	C5	9492	C5	9501	C6	9511	B6		
1407	C4	1533	C1	2530	A1	3430	B2	3560	C4	5406	A6	6404	A4	6412	B1	9410	A6	9418	B2	9426	C2	9435	C3	9443	C4	9453	A5	9461	B5	9469	B5	9477	B5	9485	C5	9493	C5	9502	C6	9512	A6		
1408	A6	1550	A6	2566	C6	3456	A2	3561	C4	5407	C3	6405	A4	6413	B2	9411	A1	9419	B2	9427	C2	9436	C3	9444	B4	9454	A5	9462	B4	9470	B5	9478	B6	9486	C5	9495	B1	9504	C6	9513	A6		



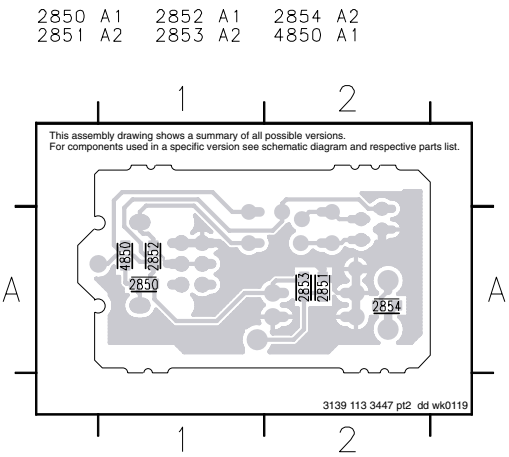
FRONT DISPLAY BOARD - CIRCUIT DIAGRAM



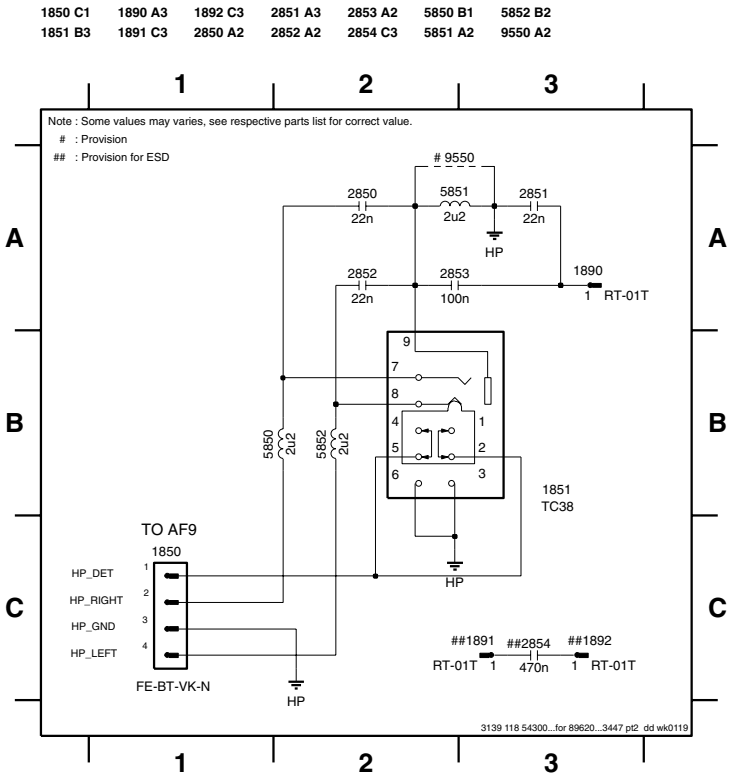
HEADPHONE BOARD - COMPONENT LAYOUT



HEADPHONE BOARD - CHIP LAYOUT



HEADPHONE BOARD - CIRCUIT DIAGRAM



ELECTRICAL PARTS LIST - FRONT DISPLAY BOARD

MISCELLANEOUS

1400	4822 265 11207	Flex Connector 6P
1402	4822 265 11535	Flex Connector 8P
1405	2422 025 14541	Flex Connector 11P
1406	4822 265 11545	Flex Connector 19P
1407	4822 267 10956	Flex Connector 7P
1409	4822 265 11207	Flex Connector 6P
1412	4822 265 11208	Flex Connector 10P
1420	3139 110 52540	FTD Display
1520	4822 276 13775	Tact Switch
1521	4822 276 13775	Tact Switch

1550	4822 273 10365	Rotary Encoder 24P
1850	4822 267 10733	Flex Connector 4P
1851	4822 265 11529	Headphone Socket

CAPACITORS

2500	4822 122 31765	100pF 2% 63V
2501	4822 122 31765	100pF 2% 63V
2502	4822 122 31765	100pF 2% 63V
2503	4822 122 31765	100pF 2% 63V
2504	4822 122 31765	100pF 2% 63V

ELECTRICAL PARTS LIST - FRONT DISPLAY BOARD

2505	4822 122 31765	100pF 2% 63V
2506	4822 122 31765	100pF 2% 63V
2507	4822 122 31765	100pF 2% 63V
2508	3198 024 44730	47nF 50V
2510	4822 126 14305	100nF 10% 16V
2518	4822 124 22726	4,7uF 35V
2519	5322 126 11583	10nF 10% 50V
2520	5322 126 11583	10nF 10% 50V
2521	5322 126 11583	10nF 10% 50V
2522	4822 126 14305	100nF 10% 16V
2523	4822 126 14305	100nF 10% 16V
2524	4822 126 14305	100nF 10% 16V
2525	4822 124 12233	47uF 20% 25V
2526	4822 126 14305	100nF 10% 16V
2527	4822 124 22726	4,7uF 35V
2528	4822 124 22726	4,7uF 35V
2529	4822 124 22726	4,7uF 35V
2530	4822 124 22726	4,7uF 35V
2531	3198 017 41050	1uF 10V
2533	4822 126 14305	100nF 10% 16V
2534	5322 126 11583	10nF 10% 50V
2535	5322 126 11583	10nF 10% 50V
2536	3198 016 36810	680pF 25V
2537	4822 126 13883	220pF 5% 50V
2538	4822 126 14305	100nF 10% 16V
2539	4822 126 14305	100nF 10% 16V
2541	4822 126 13883	220pF 5% 50V
2542	4822 126 13883	220pF 5% 50V
2543	4822 126 14305	100nF 10% 16V
2544	4822 126 14305	100nF 10% 16V
2545	4822 126 13879	220nF +80/-20% 16V
2546	4822 126 13883	220pF 5% 50V
2547	4822 126 13883	220pF 5% 50V
2548	4822 126 13883	220pF 5% 50V
2549	4822 122 33741	10pF 10% 50V
2550	4822 122 33741	10pF 10% 50V
2551	4822 122 33777	47pF 5% 63V
2552	4822 122 33777	47pF 5% 63V
2553	4822 122 33777	47pF 5% 63V
2554	4822 122 33741	10pF 10% 50V
2555	4822 126 14305	100nF 10% 16V
2556	4822 122 33741	10pF 10% 50V
2557	4822 122 33741	10pF 10% 50V
2558	4822 122 31765	100pF 2% 63V
2559	4822 122 31765	100pF 2% 63V
2560	4822 122 31765	100pF 2% 63V
2561	4822 122 31765	100pF 2% 63V
2562	3198 016 31020	1nF 25V
2563	5322 126 11583	10nF 10% 50V
2564	5322 126 11578	1nF 10% 50V
2565	4822 122 33777	47pF 5% 63V
2566	4822 124 22651	1uF 20% 50V

2567	4822 126 13879	220nF +80/-20% 16V
2568	4822 126 14223	2,2pF 50V
2569	4822 124 11947	10uF 20% 16V
2570	4822 124 12052	220uF 20% 6,3V
2571	4822 124 12233	47uF 20% 25V
2572	3198 028 44790	47uF 20% 35V
2573	3198 028 44790	47uF 20% 35V
2574	4822 122 33761	22pF 5% 50V
2575	4822 122 33761	22pF 5% 50V
2576	4822 122 33761	22pF 5% 50V
2577	2222 867 15339	33pF 5% 50V
2578	4822 126 14305	100nF 10% 16V
2579	4822 126 13883	220pF 5% 50V
2580	4822 126 13883	220pF 5% 50V
2581	4822 126 13883	220pF 5% 50V
2582	4822 126 13883	220pF 5% 50V
2583	4822 122 31765	100pF 2% 63V
2584	4822 122 31765	100pF 2% 63V
2585	4822 126 13883	220pF 5% 50V
2586	4822 126 13883	220pF 5% 50V
2587	3198 017 41050	1uF 10V
2588	4822 126 13879	220nF +80/-20% 16V
2589	3198 017 41050	1uF 10V
2850	4822 126 14494	22nF 10% 25V
2851	4822 126 14494	22nF 10% 25V
2852	4822 126 14494	22nF 10% 25V
2853	4822 126 14305	100nF 10% 16V

RESISTORS

3400	4822 051 30471	470R 5% 0,062W
3401	4822 051 30471	470R 5% 0,062W
3402	4822 051 30471	470R 5% 0,062W
3403	4822 051 30471	470R 5% 0,062W
3404	4822 051 30471	470R 5% 0,062W
3407	4822 051 20109	10R 5% 0,1W
3408	4822 051 20109	10R 5% 0,1W
3409	4822 117 12925	47k 1% 0,063W
3410	4822 051 20109	10R 5% 0,1W
3411	4822 051 20109	10R 5% 0,1W
3413	4822 051 30105	1M 5% 0,062W
3414	4822 051 30471	470R 5% 0,062W
3415	4822 051 30471	470R 5% 0,062W
3416	4822 051 30471	470R 5% 0,062W
3417	4822 051 30471	470R 5% 0,062W
3418	4822 051 30471	470R 5% 0,062W
3419	4822 051 30471	470R 5% 0,062W
3420	4822 051 30471	470R 5% 0,062W
3421	4822 051 30471	470R 5% 0,062W
3422	4822 051 30471	470R 5% 0,062W
3423	4822 051 30471	470R 5% 0,062W
3424	4822 051 30471	470R 5% 0,062W
3425	4822 051 30471	470R 5% 0,062W

ELECTRICAL PARTS LIST - FRONT DISPLAY BOARD**RESISTORS**

3428	4822 051 30471	470R 5% 0,062W	3500	4822 117 12864	82k 5% 0,6W
3429	4822 116 83883	470R 5% 0,5W	3501	4822 117 12864	82k 5% 0,6W
3430	4822 116 83883	470R 5% 0,5W	3502	4822 117 12864	82k 5% 0,6W
3431	4822 051 30471	470R 5% 0,062W	3503	4822 117 12864	82k 5% 0,6W
3432	4822 051 30471	470R 5% 0,062W	3504	4822 116 83883	470R 5% 0,5W
3433	4822 051 30471	470R 5% 0,062W	3505	4822 116 83883	470R 5% 0,5W
3434	4822 051 30102	1k 5% 0,062W	3511	4822 051 30272	2k7 5% 0,062W
3435	4822 051 30471	470R 5% 0,062W	3512	4822 051 30102	1k 5% 0,062W
3436	4822 051 30471	470R 5% 0,062W	3519	4822 051 30103	10k 5% 0,062W
3437	4822 051 30471	470R 5% 0,062W	3520	4822 051 30103	10k 5% 0,062W
3438	4822 051 30222	2k2 5% 0,062W	3521	4822 051 30684	680k 5% 0,062W
3439	4822 051 30222	2k2 5% 0,062W	3522	4822 117 12925	47k 1% 0,063W
3444	4822 051 30471	470R 5% 0,062W	3523	4822 051 30474	470k 5% 0,062W
3445	4822 051 30471	470R 5% 0,062W	3524	4822 051 30109	10R 5% 0,062W
3446	4822 051 30471	470R 5% 0,062W	3526	4822 116 52244	15k 5% 0,5W
3447	4822 051 30471	470R 5% 0,062W	3527	4822 117 12968	820R 5% 0,62W
3448	4822 051 30471	470R 5% 0,062W	3528	4822 051 30103	10k 5% 0,062W
3449	4822 051 30471	470R 5% 0,062W	3529	4822 051 30272	2k7 5% 0,062W
3450	4822 051 30471	470R 5% 0,062W	3530	4822 051 30471	470R 5% 0,062W
3451	4822 051 30471	470R 5% 0,062W	3531	4822 051 30103	10k 5% 0,062W
3452	4822 051 30471	470R 5% 0,062W	3532	4822 051 30103	10k 5% 0,062W
3453	4822 051 30471	470R 5% 0,062W	3533	4822 051 30102	1k 5% 0,062W
3454	4822 051 30471	470R 5% 0,062W	3534	4822 051 30102	1k 5% 0,062W
3455	4822 051 30471	470R 5% 0,062W	3535	4822 051 20109	10R 5% 0,1W
3456	4822 116 83883	470R 5% 0,5W	3536	4822 051 20109	10R 5% 0,1W
3457	4822 051 30471	470R 5% 0,062W	3537	4822 116 52206	120R 5% 0,5W
3458	4822 051 30471	470R 5% 0,062W	3538	4822 116 52206	120R 5% 0,5W
3459	4822 051 30471	470R 5% 0,062W	3539	4822 051 30223	22k 5% 0,062W
3460	4822 051 30471	470R 5% 0,062W	3540	4822 051 30103	10k 5% 0,062W
3461	4822 051 30471	470R 5% 0,062W	3541	4822 051 30103	10k 5% 0,062W
3462	4822 051 30471	470R 5% 0,062W	3542	4822 116 83872	220R 5% 0,5W
3463	4822 051 30471	470R 5% 0,062W	3543	4822 051 30221	220R 5% 0,062W
3464	4822 051 30471	470R 5% 0,062W	3544	4822 051 30121	120R 5% 0,062W
3465	4822 051 30471	470R 5% 0,062W	3545	4822 051 30121	120R 5% 0,062W
3466	4822 051 30471	470R 5% 0,062W	3546	4822 051 30121	120R 5% 0,062W
3467	4822 051 30471	470R 5% 0,062W	3547	4822 051 30121	120R 5% 0,062W
3468	4822 051 30471	470R 5% 0,062W	3548	4822 051 30221	220R 5% 0,062W
3469	4822 051 30471	470R 5% 0,062W	3549	4822 051 30221	220R 5% 0,062W
3470	4822 051 30471	470R 5% 0,062W	3550	4822 051 30472	4k7 5% 0,062W
3471	4822 051 30471	470R 5% 0,062W	3551	4822 051 30103	10k 5% 0,062W
3472	4822 051 30471	470R 5% 0,062W	3552	4822 051 30103	10k 5% 0,062W
3473	4822 051 30471	470R 5% 0,062W	3553	4822 051 30103	10k 5% 0,062W
3474	4822 051 30221	220R 5% 0,062W	3554	4822 051 30103	10k 5% 0,062W
3475	4822 051 30221	220R 5% 0,062W	3555	4822 051 30221	220R 5% 0,062W
3476	4822 051 30471	470R 5% 0,062W	3556	4822 051 30121	120R 5% 0,062W
3477	4822 051 30471	470R 5% 0,062W	3557	4822 051 30271	270R 5% 0,062W
3479	4822 051 30471	470R 5% 0,062W	3558	4822 051 30221	220R 5% 0,062W
3480	4822 051 30471	470R 5% 0,062W	3559	4822 051 30221	220R 5% 0,062W
3485	4822 117 12925	47k 1% 0,063W	3560	4822 116 83883	470R 5% 0,5W
3490	4822 051 30471	470R 5% 0,062W	3561	4822 116 83883	470R 5% 0,5W
3491	4822 051 30471	470R 5% 0,062W	3562	4822 051 30103	10k 5% 0,062W
3492	4822 051 30471	470R 5% 0,062W	3563	4822 051 30103	10k 5% 0,062W

ELECTRICAL PARTS LIST - FRONT DISPLAY BOARD

3564	4822 051 30221	220R 5% 0,062W
3565	4822 051 30221	220R 5% 0,062W
3570	4822 051 20109	10R 5% 0,1W
3571	4822 051 20109	10R 5% 0,1W
3572	4822 051 30222	2k2 5% 0,062W
3573	4822 051 30103	10k 5% 0,062W
3574	4822 051 30103	10k 5% 0,062W
3576	4822 051 30103	10k 5% 0,062W
3577	4822 051 30103	10k 5% 0,062W
3578	4822 051 30103	10k 5% 0,062W
3579	4822 051 30103	10k 5% 0,062W
3580	4822 051 30102	1k 5% 0,062W
3581	4822 051 30102	1k 5% 0,062W
3582	4822 051 30102	1k 5% 0,062W
3583	4822 051 30223	22k 5% 0,062W
3584	4822 051 30102	1k 5% 0,062W
3585	4822 051 30334	330k 5% 0,062W
3586	4822 051 30102	1k 5% 0,062W
3589	4822 051 30102	1k 5% 0,062W
3590	4822 117 13632	100k 1% 0,62W
3591	4822 117 13632	100k 1% 0,62W
3592	4822 051 30102	1k 5% 0,062W
3593	4822 051 30102	1k 5% 0,062W
3594	4822 051 30102	1k 5% 0,062W
3595	4822 051 30272	2k7 5% 0,062W
3596	4822 051 30272	2k7 5% 0,062W
3598	4822 051 30103	10k 5% 0,062W
3599	4822 051 30471	470R 5% 0,062W
4402	4822 051 30008	0R Jumper 0603
4403	4822 051 30008	0R Jumper 0603
4404	4822 051 30008	0R Jumper 0603
4410	4822 051 30008	0R Jumper 0603
4411	4822 051 30008	0R Jumper 0603
4412	4822 051 30008	0R Jumper 0603
4413	4822 051 30008	0R Jumper 0603
4414	4822 051 30008	0R Jumper 0603
4415	4822 051 30008	0R Jumper 0603
4416	4822 051 30008	0R Jumper 0603
4418	4822 051 30008	0R Jumper 0603
4419	4822 051 30008	0R Jumper 0603
4420	4822 051 30008	0R Jumper 0603
4422	4822 051 30008	0R Jumper 0603
4423	4822 051 30008	0R Jumper 0603
4424	4822 051 30008	0R Jumper 0603
4425	4822 051 30008	0R Jumper 0603
4426	4822 051 30008	0R Jumper 0603
4427	4822 051 30008	0R Jumper 0603
4428	4822 051 30008	0R Jumper 0603
4429	4822 051 30008	0R Jumper 0603
4431	4822 051 30008	0R Jumper 0603
4434	4822 051 30008	0R Jumper 0603
4435	4822 051 30008	0R Jumper 0603

4850 4822 051 30008 0R Jumper 0603

COILS & FILTERS

5400	4822 157 62552	Coil 2,2uH 5%
5401	4822 157 62552	Coil 2,2uH 5%
5402	5322 242 73686	RES CER 12MHz
5403	2422 543 01069	RES XTL 32,768kHz
5405	4822 157 62552	Coil 2,2uH 5%
5406	4822 157 62552	Coil 2,2uH 5%
5407	4822 157 62552	Coil 2,2uH 5%
5408	4822 157 62552	Coil 2,2uH 5%
5409	4822 157 62552	Coil 2,2uH 5%
5850	4822 157 62552	Coil 2,2uH 5%
5851	4822 157 62552	Coil 2,2uH 5%
5852	4822 157 62552	Coil 2,2uH 5%

DIODES

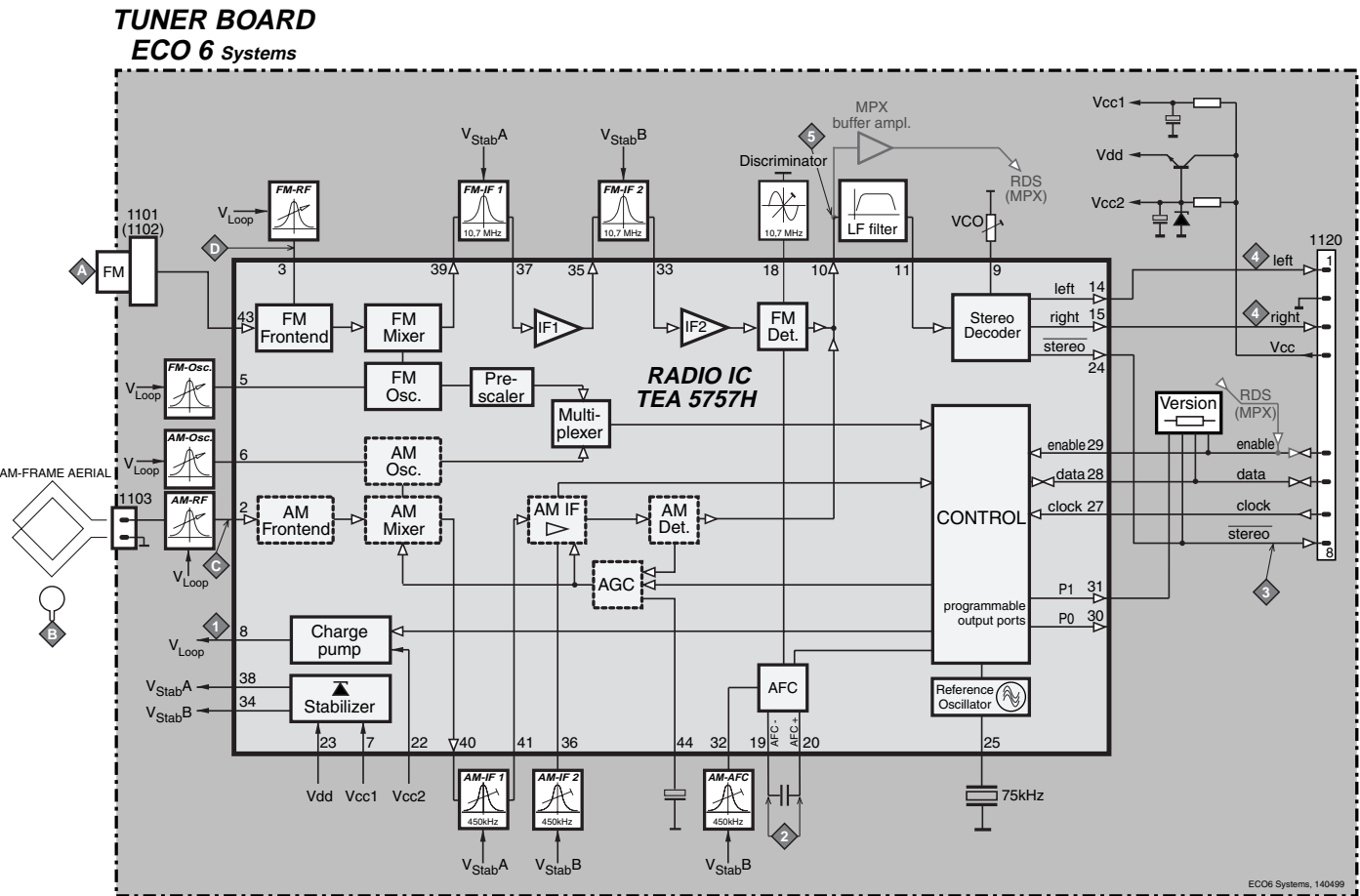
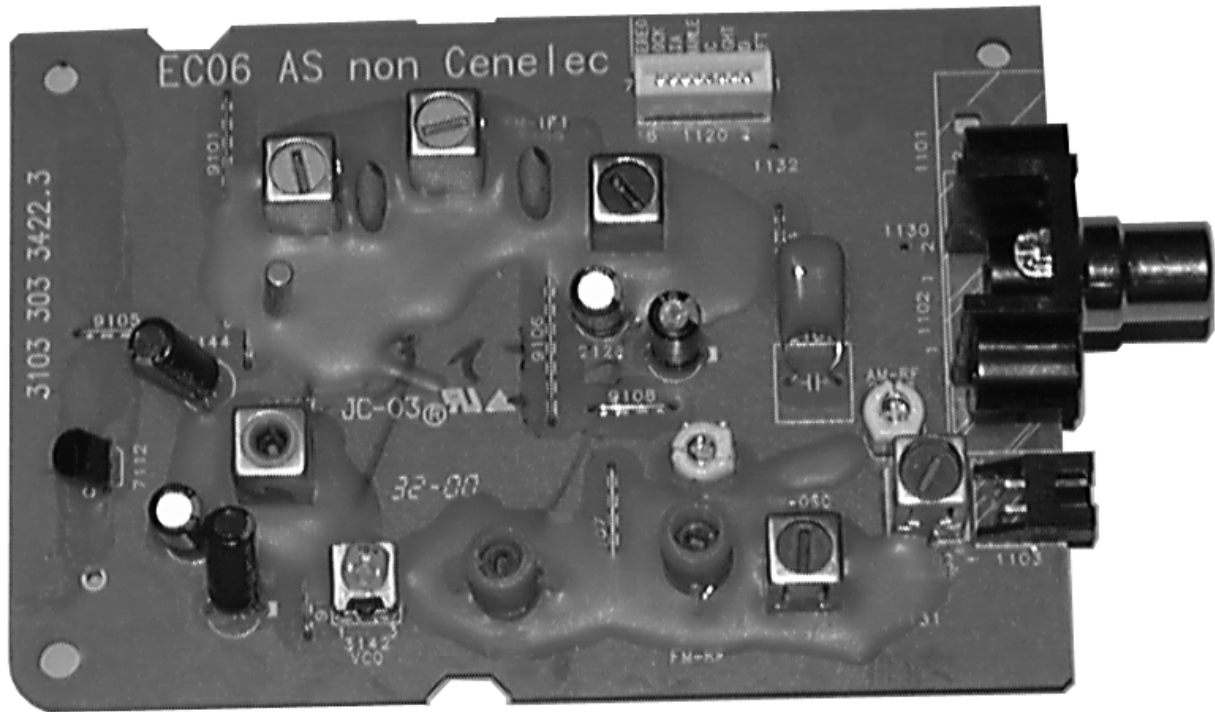
6400	4822 130 30621	1N4148
6401	4822 130 30621	1N4148
6402	4822 130 30621	1N4148
6403	4822 130 30621	1N4148
6404	4822 130 30621	1N4148
6405	4822 130 34174	BZX79-B4V7
6406	4822 130 30621	1N4148
6407	4822 130 30621	1N4148
6408	4822 130 30621	1N4148
6409	4822 130 30621	1N4148
6410	4822 130 31878	1N4003G
6411	4822 130 31878	1N4003G
6412	4822 130 30621	1N4148
6413	4822 130 31878	1N4003G
6414	4822 130 30621	1N4148
6415	4822 130 11397	BAS316
6420	9322 167 73676	LTL-4221NLC-KA

TRANSISTORS & INTEGRATED CIRCUITS

7400	3139 110 53040	TMP88CU74YF-'C555S53041'
7402	5322 209 11446	HEF4051BT
7403	4822 209 15449	74HC4094D
7404	4822 209 15449	74HC4094D
7405	9322 145 26668	M24C02-WMN6
7406	4822 130 60511	BC847B
7407	4822 130 60511	BC847B
7408	4822 130 60511	BC847B
7409	4822 130 60511	BC847B
7410	4822 130 60511	BC847B
7411	4822 130 60373	BC857B
7412	4822 130 60511	BC847B
7413	4822 130 60511	BC847B

Note : Only the parts mentioned in this list are normal service spare parts.

BLOCK DIAGRAM



ECO6 Tuner Board

version: **SYSTEMS non-CENELEC**

TABLE OF CONTENTS

Blockdiagram7A-1

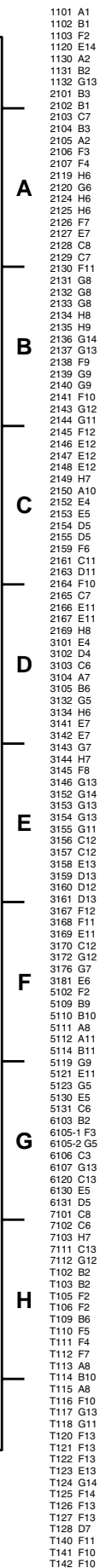
Schematic Diagram7A-2

Component Layout.....7A-3

Adjustment table7A-3

Electrical Partslist.....7A-4

VERSION PROGRAMMING COMPONENTS



(p)...for provision only
 USA ... for USA version only
 E-EU ... for East European version only
 J ... for Japanese version only

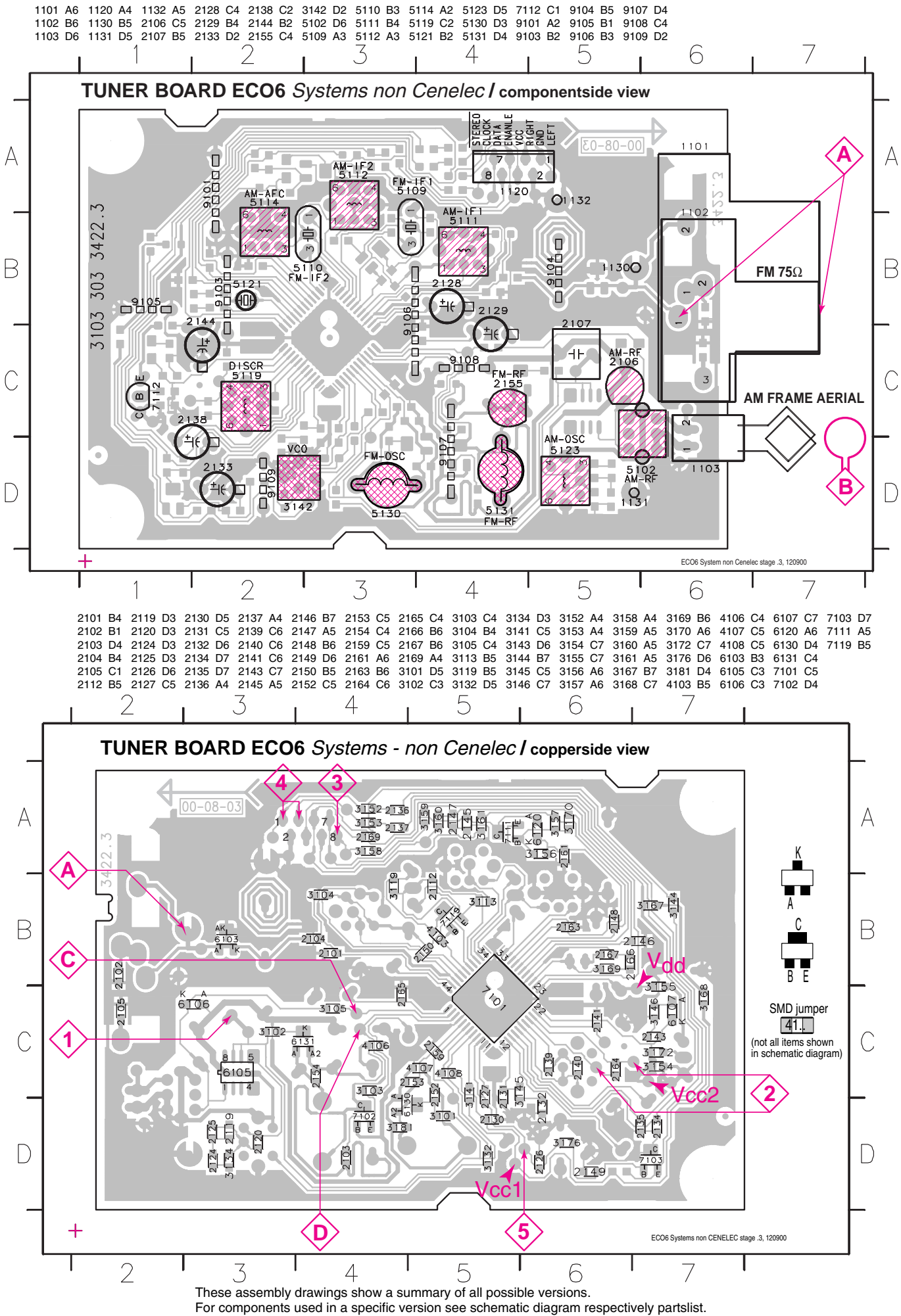
EVM

...V	FM mode stereo
...V	MW mode
...V	LW mode

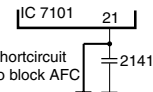
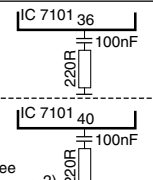
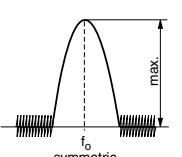
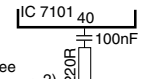
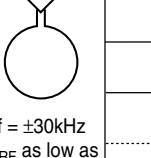
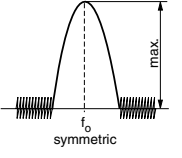
voltages measured while set is tuned to a strong transmitter

Signal path

- FM
- - - AM
- - MPX (Audio Frequency)
- ⇒ AF - left/right



TUNER ADJUSTMENT TABLE (ECO6 FM/MW- and FM/MW/LW - versions with AM-frame aerial)

Waverange	Input frequency	Input	Tuned to	Adjust	Output	Scope/Voltmeter
VARICAP ALIGNMENT						
FM 87.5 - 108MHz (65.81 - 74, 87.5 - 108MHz)			108MHz	5130	1	8V ±0.2V
			87.5MHz (65.81MHz)	check		4.3V ±0.5V (1.2V ±0.5V)
MW FM/AM-version, 10kHz grid 530 - 1700kHz	1700kHz		5123	8V ±0.2V		
	530kHz		check	1.1V ±0.4V		
FM/MW-version, 9kHz grid 531 - 1602kHz	1602kHz		5123	6.9V ±0.2V		
	531kHz		check	1.1V ±0.4V		
LW 153 - 279kHz			279kHz	5122		8V ±0.2V
			153kHz	check		1.1V ±0.4V
MW FM/MW/LW- version, 9kHz grid 531 - 1602kHz			1602kHz	5123		8V ±0.2V
			531kHz	check		1.1V ±0.4V
FM IF						
FM	10.7MHz, 45mV continuous wave	D		5119	2	0 ± 3 mV DC
FM RF						
FM 87.5 - 108MHz (65.81 - 74, 87.5 - 108MHz)	108MHz	A mod=1kHz Δf=±22.5kHz	108MHz	2155	4	MAX
	87.5MHz (65.81MHz)		87.5MHz (65.81MHz)	5131		
VCO						
FM	98MHz, 1mV continuous wave	A	98MHz	3142	3	152kHz ±1kHz ¹⁾
AM IF						
MW	450kHz connect pin 6 of IC 7101 (AM Osc.) with 3.3kΩ to Vcc	C Δf=±10kHz V _{RF} = 0.5mV (as low as possible)		5111	5	
			see remark 2) 	5112		
AM AFC MW		C continuous wave V _{RF} = 2mV		5114	2	0 ± 2 mV DC
AM RF ³⁾						
MW ⁴⁾ FM/MW/LW- and FM/MW-version (9kHz grid) 531 - 1602kHz	1494kHz	B 	1494kHz	2106	5	
	558kHz		558kHz	5102		
LW	198kHz		198kHz	5103		
MW FM/AM-version, 10kHz grid 530 - 1700kHz	1500kHz		1500kHz	2106		
	560kHz		560kHz	5102		

Use Service Testprogram. By selecting the TUNER TEST test frequencies will be stored as preset frequencies automatically.

¹⁾ If sensitivity of frequency counter is too low adjust to max. channel separation (input signal: stereo left 90% + 9%, adjust output on right channel to minimum)

²⁾ RC network serves for damping the IF-filter while adjusting the other one.

³⁾ For AM RF adjustments the original frame antenna has to be used !

⁴⁾ MW has to be aligned before LW.

↑ Repeat

MISCELLANEOUS

1101	2422 015 19376	SOCKET 2P CLICKFIT	USA only
1102	4822 267 10283	SOCKET COAX, IEC 75Ω	not USA
1103	4822 265 31184	JST CONNECTOR 2 POLE	
1120	4822 265 11515	FFC SOCKET, 8P	

CAPACITORS

2101	4822 126 13692	47pF	1%	63V	
2102	4822 126 13838	100nF	10%	50V	not USA
2103	5322 122 31647	1nF	10%	63V	
2104	5322 122 32531	100pF	5%	50V	
2105	4822 126 13838	100nF	10%	50V	USA only

2106	2020 800 00191	3-11pF TRIMCAP.,N450		
2107	4822 121 51319	1μF	20%	50V
2120©	4822 126 13689	18pF	1%	63V
2124©	5322 122 32654	22nF	10%	63V
2125©	2020 552 96199	560pF	1%	50V

2126	5322 122 31863	330pF	5%	50V	
2127	4822 126 14076	220nF	20%	25V	
2128	4822 124 40248	10μF	20%	63V	
2129	4822 124 41584	100μF	20%	10V	
2130	5322 122 32654	22nF	10%	63V	

2131	4822 126 13482	470nF	20%	16V	
2132	4822 126 13482	470nF	20%	16V	
2133	4822 124 21913	1μF	20%	63V	
2134	4822 126 13188	15nF	5%	63V	not USA
2134	5322 122 32654	22nF	10%	63V	USA only

2135	4822 126 13188	15nF	5%	63V	not USA
2135	5322 122 32654	22nF	10%	63V	USA only
2136	4822 126 14076	220nF	20%	25V	
2137	4822 126 14076	220nF	20%	25V	
2138	4822 124 22652	2,2μF	20%	50V	

2139	4822 126 14236	15pF	5%	50V	
2140	4822 126 13695	82pF	1%	63V	
2141	4822 126 13838	100nF	10%	50V	
2143	4822 126 14076	220nF	20%	25V	
2144	4822 124 21913	1μF	20%	63V	

2145	4822 122 33575	220pF	5%	50V	
2146	4822 122 33575	220pF	5%	50V	
2147	4822 122 33575	220pF	5%	50V	
2148	4822 122 33127	2,2nF	10%	63V	
2149	5322 122 32659	33pF	5%	50V	RDS only

2150	4822 126 13838	100nF	10%	50V	
2152	4822 126 12105	33nF	5%	63V	not for East Europe
2152	5322 116 80853	560pF	5%	63V	for East Europe only
2153	4822 126 13486	15pF	2%	63V	not for East Europe
2153	4822 122 33926	12pF	2%	50V	for East Europe only

2155	2020 800 00191	3-11pF	TRIMCAP.,N450	
2159©	5322 122 32659	33pF	5%	50V
2164©	4822 126 13482	470nF	20%	16V
2165©	4822 126 13838	100nF	10%	50V
2166©	5322 122 31647	1nF	10%	63V

2167	4822 122 33926	12pF	5%	50V	
2169	4822 122 33127	2,2nF	10%	63V	RDS only

RESISTORS

3101	4822 051 20333	33kΩ	5%	0,1W	
3102	4822 117 10837	100kΩ	1%	0,1W	
3103	4822 051 20822	8,2kΩ	5%	0,1W	
3104	4822 117 13577	330Ω	1%	0,1W	
3105	4822 117 11503	220Ω	5%	0,1W	

3132	4822 051 20479	47Ω	5%	0,1W	
3134	4822 051 20223	22kΩ	5%	0,1W	
3141	4822 117 11148	56kΩ	1%	0,1W	
3142	4822 100 12159	TRIMPOT. 100kΩ			

RESISTORS

3143	4822 051 20223	22kΩ	5%	0,1W	RDS only
3144	4822 051 10102	1kΩ	2%	0,25W	RDS only
3145	4822 117 11449	2,2kΩ	1%	0,1W	
3146	4822 051 20229	22Ω	5%	0,1W	
3152	4822 051 20471	470Ω	5%	0,1W	

3153	4822 051 20471	470Ω	5%	0,1W	
3154	4822 117 13577	330Ω	1%	0,1W	
3155	4822 117 11503	220Ω	5%	0,1W	
3156	4822 117 10837	100kΩ	1%	0,1W	
3157	4822 117 10837	100kΩ	1%	0,1W	

3158	4822 051 20471	470Ω	5%	0,1W	
3159	4822 051 20471	470Ω	5%	0,1W	
3160	4822 051 20471	470Ω	5%	0,1W	
3161	4822 051 20223	22kΩ	5%	0,1W	
3167	4822 051 20121	120Ω	5%	0,1W	

3168	4822 051 20121	120Ω	5%	0,1W	
3169	4822 051 20154	150kΩ	5%	0,1W	
3170	4822 117 10837	100kΩ	1%	0,1W	
3172	4822 051 20562	5,6kΩ	5%	0,1W	
3176	4822 051 20333	33kΩ	5%	0,1W	RDS only

3181	4822 051 10102	1kΩ	2%	0,25W	
4103	4822 051 20008	CHIP JUMPER 0805			
4106	4822 051 20008	CHIP JUMPER 0805			
4107	4822 051 20008	CHIP JUMPER 0805			
4108	4822 051 20008	CHIP JUMPER 0805			

COILS

5102	4822 157 71634	RF-COIL MW	
5109	4822 242 70665	FM-IF FILTER 10,7MHz	
5110	4822 242 70665	FM-IF FILTER 10,7MHz	
5111	2422 549 44023	AM-IF FILTER 450kHz	
5112	4822 157 70302	AM-IF FILTER 450kHz	

5114	4822 157 70302	AM-IF FILTER 450kHz	
5119	4822 157 11443	DISCRIMINATOR COIL	
5121	4822 242 10261	QUARTZ 75kHz	
5123	2422 549 44108	RF-COIL, AM-OSCILLATOR	
5130	4822 157 11843	RF COIL 1,5 TURNS	

5131	4822 157 11843	RF COIL 1,5 TURNS	
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DIODES

6103	5322 130 34337	BAV99	
6105	4822 130 83075	HN1V02H	
6106	4822 130 83757	BAS216	
6107	9340 386 90115	BZX284-C11	
6120	4822 130 83757	BAS216	

6130	4822 130 82833	1SV228	
6131	4822 130 82833	1SV228	

TRANSISTORS

7102	4822 130 42131	BF550	
7103	5322 130 42756	BC857C	RDS only
7111	5322 130 42755	BC847C	
7112	4822 130 44503	BC547C	

INTEGRATED CIRCUITS

7101	9351 740 80557	TEA5757H/V1, RADIO IC	
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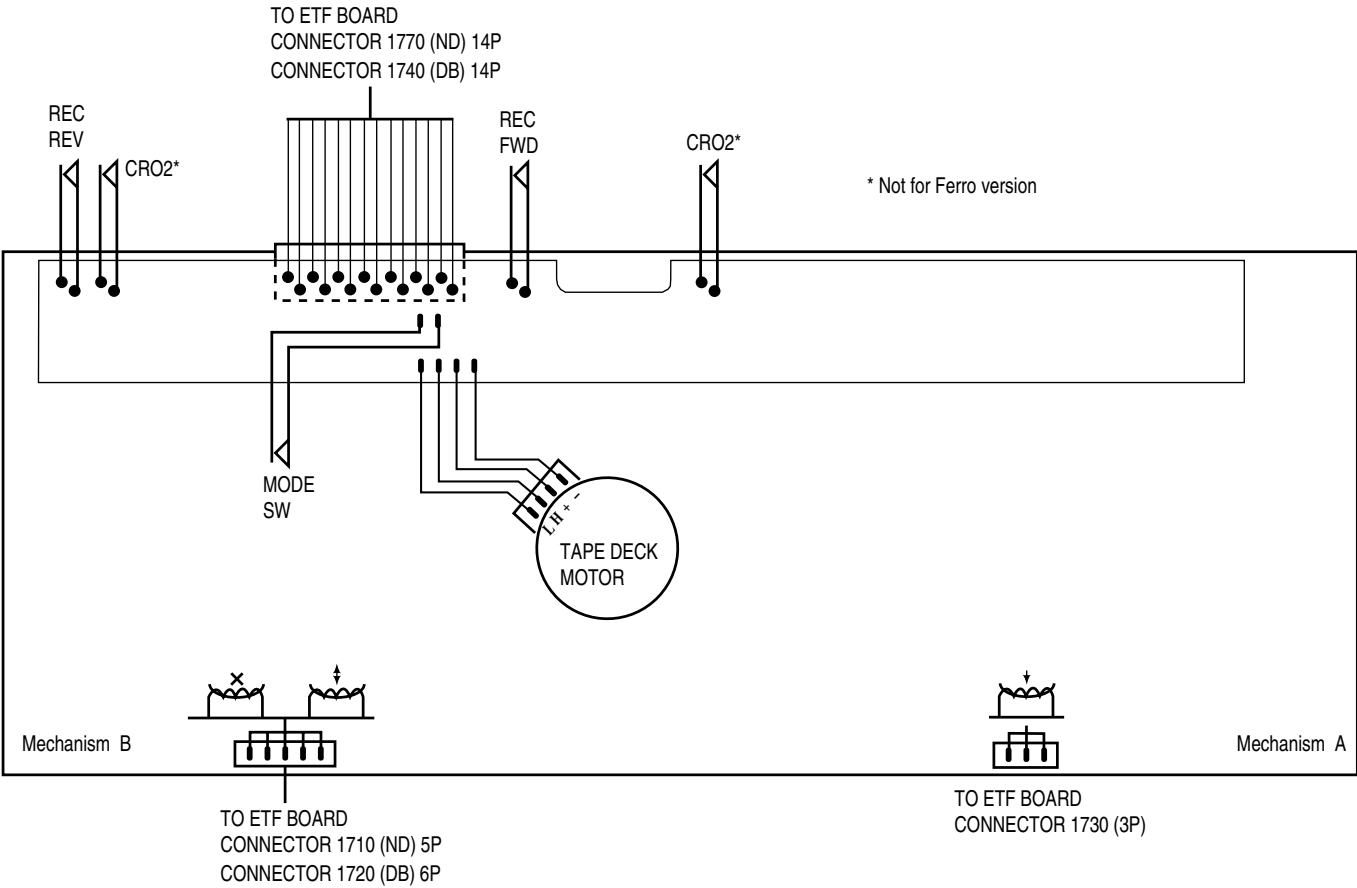
ETF7 TAPE MODULE

(Non-Dolby Version)

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Tapedeck wiring (Double deck)

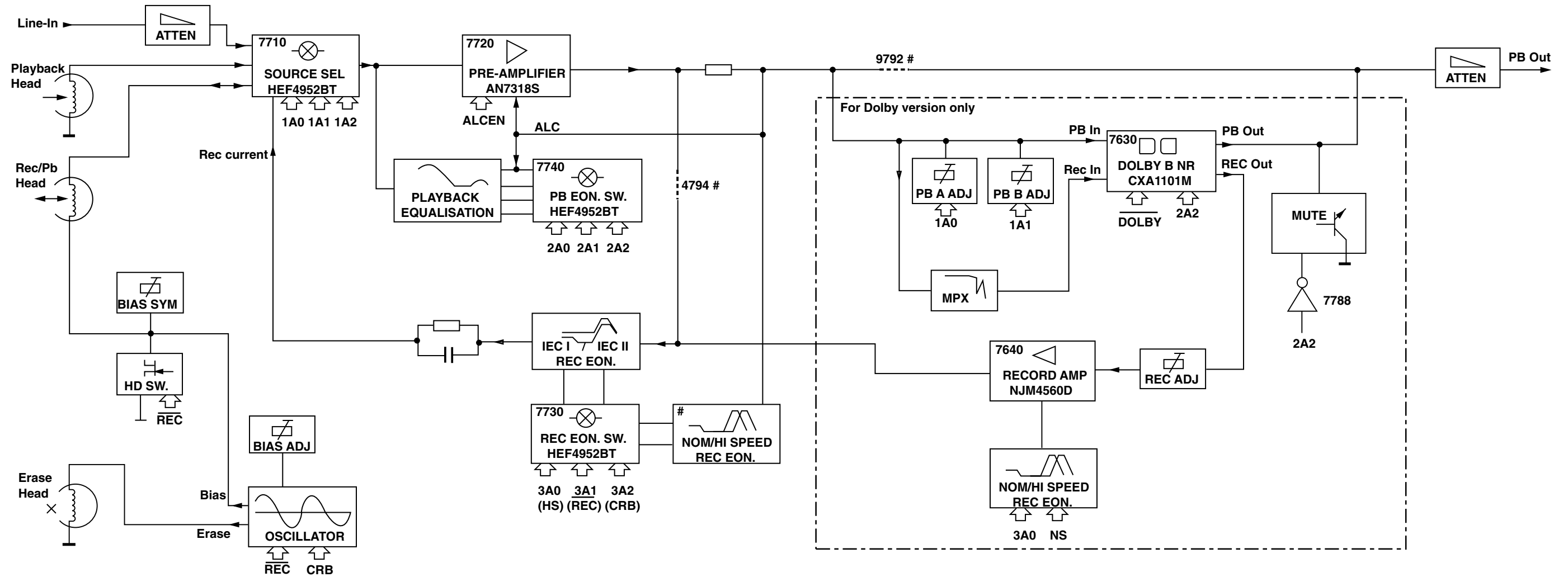


Variations table for Analog Circuit

	Autoreverse	Non-autoreverse	
	ND/DD/FR	ND/DD/FF	
	Chrome/Ferro	Chrome/Ferro	Ferro
2624	-	-	100nF
2701 , 2702	150pF	270pF	270pF
2703 , 2704	100pF	220pF	220pF
2717 , 2718	10nF	15nF	15nF
2721 , 2722	6,8nF	6,8nF	-
2727 , 2728	470pF	1nF	1nF
3616	10k	1k	1k
3618	6k8	-	-
3620	10k trimmer	-	-
3622	-	10k trimmer	10k trimmer
3672	4k7	-	-
3676	47k	-	-
3687	220R	220R	-
3688	680R	-	-
3723 , 3724	15k	18k	18k
3725 , 3726	10R	10R	-
3727 , 3728	5k6	6k8	6k8
3729 , 3730	3k3	4k7	4k7
3743 , 3744	1k5	2k2	2k2
3745 , 3746	3k3	5k6	5k6
3754 , 3755	1M	47R	47R

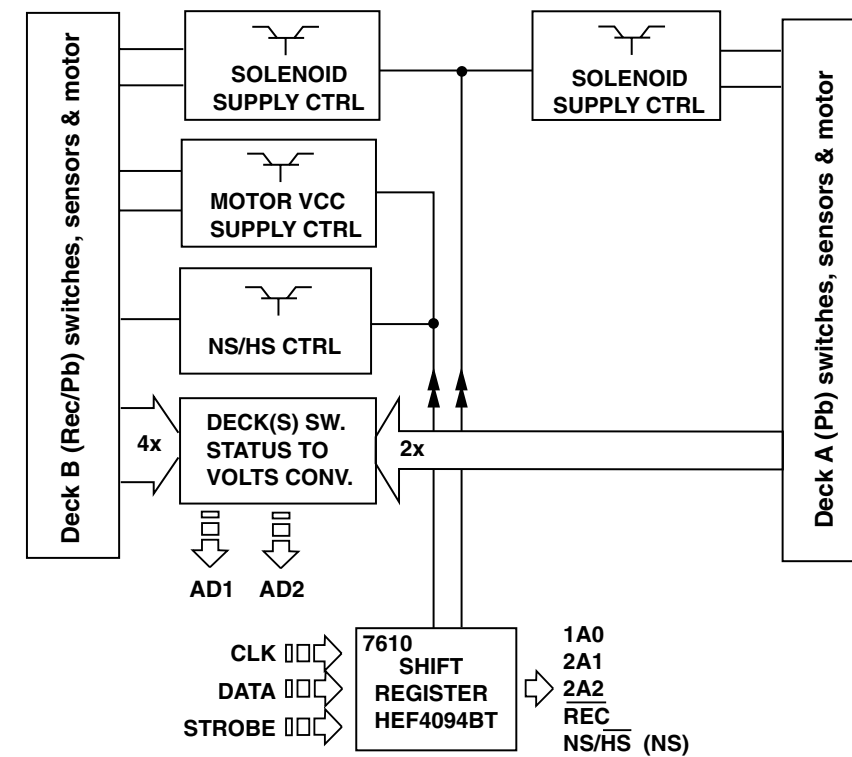
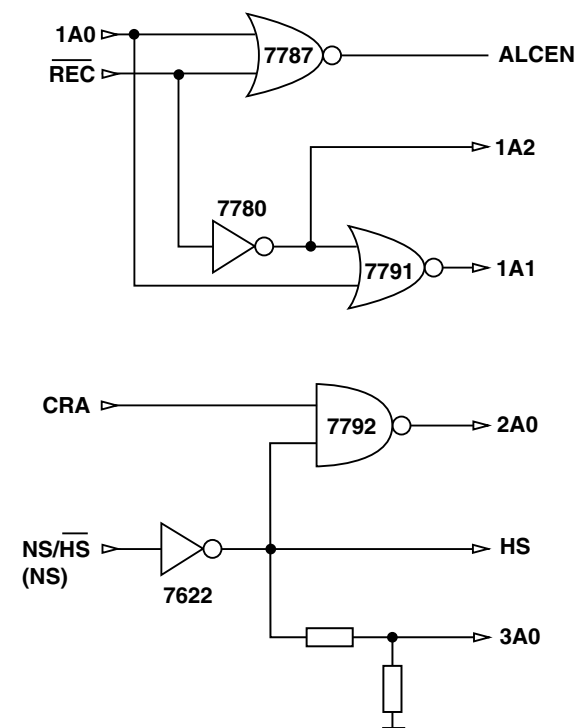
	Autoreverse	Non-autoreverse	
	ND/DD/FR	ND/DD/FF	
	Chrome/Ferro	Chrome/Ferro	Ferro
3769	12k	8k2	8k2
3772	6k8	5k6	5k6
4785	-	-	0R jumper
3774	15k	8k2	8k2
6614	1N4148	-	-
7616	BC857B	-	-
7622	BC847B	-	-

BLOCK DIAGRAM



NOTE: # For Non-dolby version only
Only 1 channel is presented.

MicroProcessor Control / Communication lines
Direct / Indirect Control lines from Shift Registers



Brief introduction

General

1. Playback Mode
Signal from the playback head Deck A or Deck B is selected and fed through by the Mode Selector IC7710 (HEF4952BT). The signal is amplified by amplifier IC7720 (AN7323S) before feeding to the IC7740 (HEF4952BT) and out to the AF Board via connector 1701.
2. Recording Mode
Recording Signal is selected and fed through by the Mode Selector IC7710 (HEF4952BT) which is then amplified by the amplifier IC7720 (AN7323S). The amplified output signal will pass through IC7730 (HEF4952BT) for record equalization and back to IC7710 (HEF4952BT) before registered into the Rec/PB Head of Deck B.
3. Dubbing Mode
In Dubbing mode, signal from the playback head Deck A is selected and fed through by the Mode Selector IC7710 (HEF4952BT) which is then equalised for playback mode by the amplifier IC7720 (AN7323S) so that a flat response is obtained after the pre-amp. The equalised signal will then follow the same path as in the Recording mode.
4. Mode Selector
The Mode Selector IC7710 (HEF4952BT) caters for 4 inputs signal, namely Playback Signal from Deck A, Playback Signal from Deck B, Recording Signal and Dubbing Signal.
5. Amplifier PB/REC
Amplifier IC7720 (AN7323S) is for the purpose of amplifying the Playback and Recording signal from the Mode Selector.
6. Automatic Level Control (ALC)
ALC circuit consists of resistors (3760, 3765, 3766, 3767), capacitors (2762 , 2763) and control by transistor 7787 (BC847B). ALC limits the amplifier output to a constant value when input signal becomes too large, thus limiting recording current to below saturation level, to prevent recording distortion.
7. Muting Circuit (For Non-Dolby version only)
Switch S4 of the IC7740 (HEF4952BT) is for the purpose of muting the output during Recording mode. During Recording mode, S4 is closed and shorted to the ground.
8. IC7740 (HEF4952BT)
The function of the IC7740 (HEF4952BT) is to change time constant between 120us Ferro (IEC I) and 70us Chrome (IEC II) during playback mode. It will automatically determined whether the tape type is 120us Ferro (IEC I) or 70us Chrome (IEC II). This IC will switch to Flat Gain during the Recording mode.
9. IC7730 (HEF4952BT)
The function of the IC7730 (HEF4952BT) is to change gain and time constant according to tape type and recording speed to boost recording current at higher frequency during recording to compensate for head loss. It will automatically determined whether the tape type is 120us Ferro (IEC I) or 70us Chrome (IEC II).
10. Bias Level
Bias Level making use of the Variable resistor (3773) for adjusting the optimal level of the bias current for Ferro or Chrome.
11. Bias Symm (For Dolby B NR version only)
Bias Symm making use of the Variable resistor (3785) to adjust the bias current for the left and the right channel to be equal.
12. PB Switch
Playback Switch which consists of the FETs 7785 (For Dolby B NR version only) & 7786 (J111) is for the purpose of providing a virtual ground for the Rec/PB Head (Deck B) during Playback mode. During the Playback mode, the FETs are turn on and shorted pin 2 and 4 of connector 1720 to the ground. During Recording mode, the FETs are turn off to allow the oscillator signal to be superposition onto the Recording signal for recording.

13. Motor Speed (For FR versions only)
During High speed dubbing, a feedback signal from the uP through pin 03 of the IC7610 (HEF4094BT) will trigger the transistors 7622 (BC847B) and 7616 (BC857B) to cause a change in the voltage level between High and Low, thus changing the speed of the motor.
14. IC7610 (HEF4094BT)
IC7610 (HEF4094BT) is a Shift Register use for issues the logic for cmos switch ICs (HEF4952BT) via 1A0, 2A1 and 2A2. It also issues logic to On/Off SOL_A, SOL_B and MOT. Recording speed is controlled via NS/HS.

Dolby Circuit (For sets with Dolby B NR version only)

15. IC7630 (CXA1551M)
IC7630 (CXA1551M) in the Dolby circuit is a Dolby Noise Reduction Type B IC for the Playback and Recording signal. Noise Reduction ON/OFF are controlled by DOLBY, which is from CLK, direct from uP. After clocking in DATA, CLK is set to HIGH/ LOW for NR OFF/ON.
16. 19kHz Filter
The 19kHz filters 5631 & 5632 (LXD-210) in the Dolby circuit is for the purpose of filtering the 19kHz Pilot Tone (for Tuner signal only) of the Recording signal.
17. Level Adjust
The Variable resistor 3635, 3636,3641 and 3642 in the Dolby circuit is for adjusting the playback level of the Dolby reference (400Hz , 200nWb/m). Transistor 7631, 7632 are ON to enable adjustment of 3641, 3642 during Playback Deck A. Transistor 7633, 7634 and 3635, 3636 are active for Playback Deck B.
18. Amplifier IC7640 (NJM4560M)
The Amplifiers 7640A & 7640B (NJM4560M) in the Dolby circuit is for the purpose of amplified the Recording signal.
19. Muting Circuit
The muting circuit which consists of transistors 7788, 7789 and 7790 (BC847B) is for the purpose of muting the output during Recording mode.

NOTATIONS & ABBREVIATIONS USED IN THIS DOCUMENT

CR	Chrome (IEC type II)
DB	Dolby NR type B
DD	Double Deck
DM	Double Motor
FE	Ferro (IEC type I)
FF	Non-Autoreverse
FR	Autoreverse Deck B
Gnd x	Ground x
HSD	High speed dubbing
ND	Non Dolby
NR	Noise Reduction
NSD	Normal speed dubbing
PB	Playback
REC	Record
S/A	Sub-assy
SD	Single Deck
SM	Single Motor

CONNECTORS ASSIGNMENTS:CONNECTOR 1701INTERCONNECTION TO AF BOARD

○ 1	REC-L	Record input left
○ 2	REC-R	Record input right
○ 3	GND A	AF Ground
○ 4	TAPE-L	Playback output left
○ 5	+12V	D.C. supply (+12V) for AF electronics
○ 6	TAPE-R	Playback output right
○ 7	-CMOS	Negative d.c. supply (-9V) for CMOS ICs

CONNECTOR 1703INTERCONNECTION TO AF BOARD

○ 1	GND M	Motor Ground
○ 2	+MOTOR	D.C. supply (+12V) for tape deck motor & solenoid

CONNECTOR 1706INTERCONNECTION TO FRONT BOARD

○ 1	AD2	Deck sensing switches output voltage / Deck A EOT
○ 2	AD1	Deck sensing switches output voltage / Deck B EOT
○ 3	+5V	DC supply +5V for ADC network
○ 4	GND P	Control & Oscillator Ground
○ 5	CLK	HEF4094BT shift register Clock line
○ 6	DATA	HEF4094BT shift register Data line
○ 7	STROBE	HEF4094BT shift register Strobe line

CONNECTOR 1710DECK B HEADS CONNECTOR (For Non-Dolby version only)

○ 1	B R/P HD L+	R/P Head left channel positive
○ 2	GND A	R/P Head return ground
○ 3	B R/P HD R+	R/P Head right channel positive
○ 4	ERASE HEAD	Erase Head
○ 5	GND A	Erase Head ground

CONNECTOR 1720DECK B HEADS CONNECTOR (For Dolby B NR version only)

○ 1	B R/P HD L+	R/P Head left channel positive
○ 2	B R/P HD L-	R/P Head left channel negative
○ 3	B R/P HD R+	R/P Head right channel positive
○ 4	B R/P HD R-	R/P Head right channel negative
○ 5	ERASE HEAD	Erase Head
○ 6	GND A	Erase Head ground

CONNECTOR 1730DECK A HEAD CONNECTIONS (For Double Deck versions only)

○ 1	A PB HD L+	Pb Head left channel positive
○ 2	GND A	Pb Head return ground shield
○ 3	A PB HD R+	Pb Head right channel positive

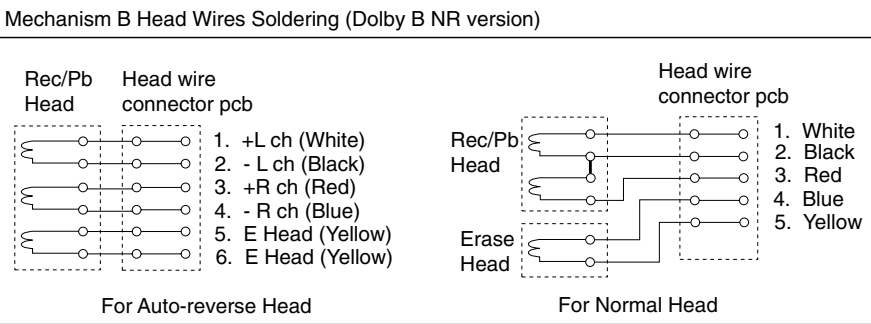
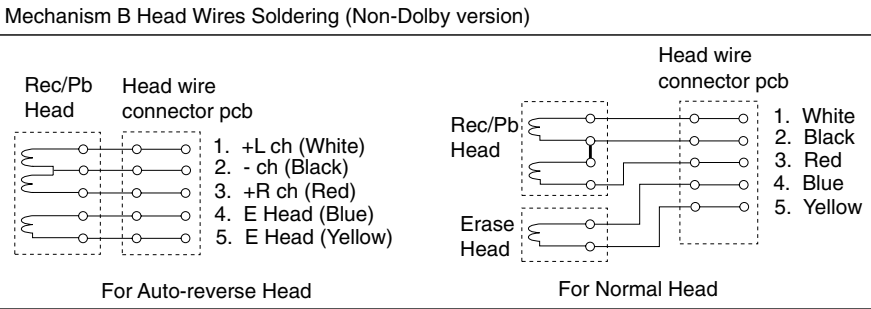
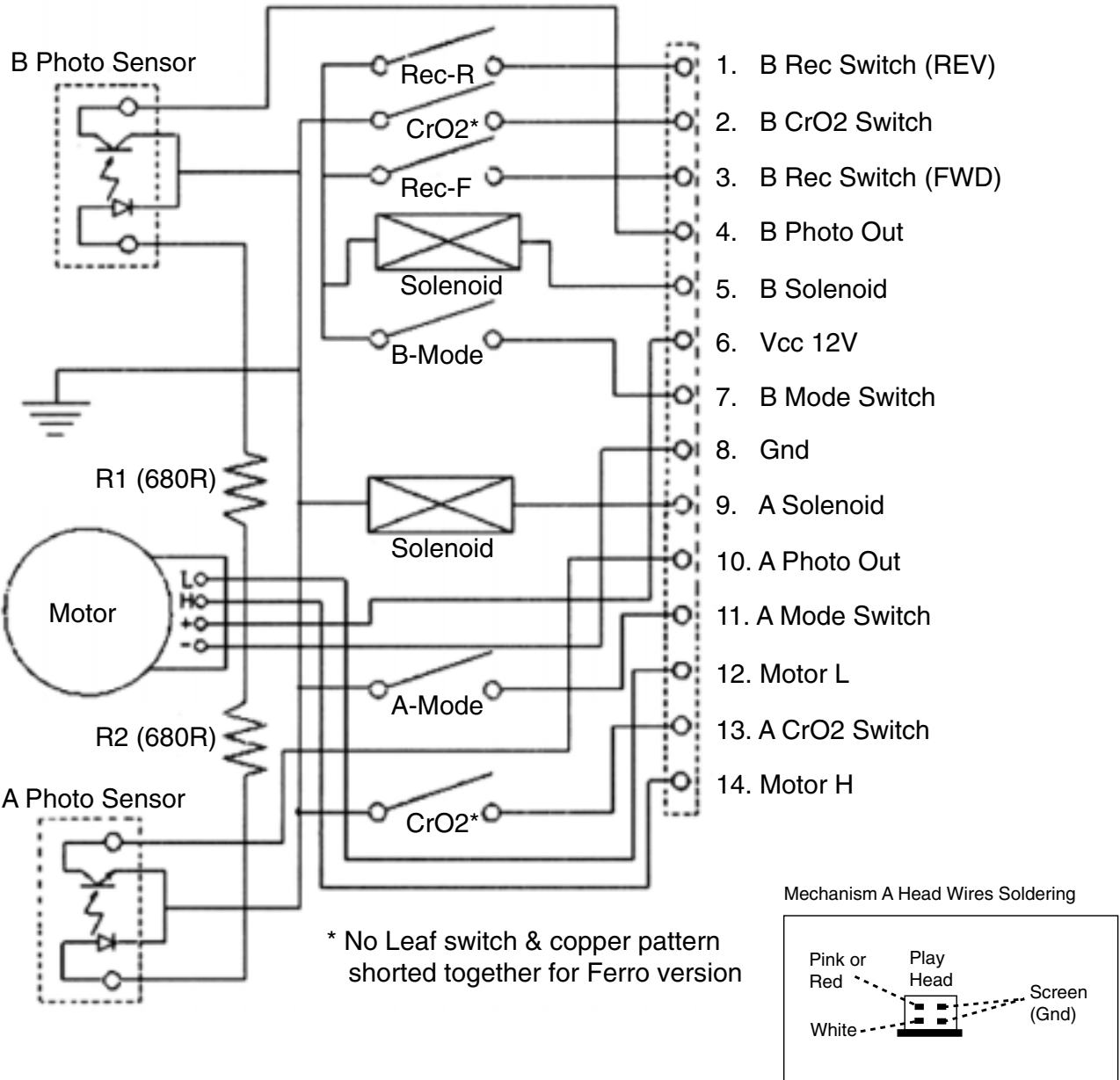
CONNECTOR 1740DECK A & B CONTROL INTERFACE (For Dolby B NR version only)

○ 1	REC REW	Record tab protection status switch (reverse)	[open=on: close=off]
○ 2	CrO2 B	Chrome tape detection switch deck B	[open=Cr: close=Fe]
○ 3	REC FWD	Record tab protection status switch (forward)	[open=on: close=off]
○ 4	PHOTO B	Photo sensor output (tape movement indication)	
○ 5	SOL B	Solenoid supply for deck B	
○ 6	Vcc	Deck / Motor supply	
○ 7	MODE B	Mode switch (head engagement)	[open=off: close=engaged]
○ 8	GND M	Deck / Motor ground	
○ 9	SOL A	Solenoid supply for deck A	
○ 10	PHOTO A	Photo sensor output (tape movement indication)	
○ 11	MODE A	Mode switch (head engagement)	[open=off: close=engaged]
○ 12	L	L pin for motor	
○ 13	CrO2 A	Chrome tape detection switch deck A	[open=Cr: close=Fe]
○ 14	H	H pin for motor	

CONNECTOR 1770DECK A & B CONTROL INTERFACE (For Non-Dolby version only)

○ 1	REC REW	Record tab protection status switch (reverse)	[open=on: close=off]
○ 2	CrO2 B	Chrome tape detection switch deck B	[open=Cr: close=Fe]
○ 3	REC FWD	Record tab protection status switch (forward)	[open=on: close=off]
○ 4	PHOTO B	Photo sensor output (tape movement indication)	
○ 5	SOL B	Solenoid supply for deck B	
○ 6	Vcc	Deck / Motor supply	
○ 7	MODE B	Mode switch (head engagement)	[open=off: close=engaged]
○ 8	GND M	Deck / Motor ground	
○ 9	SOL A	Solenoid supply for deck A	
○ 10	PHOTO A	Photo sensor output (tape movement indication)	
○ 11	MODE A	Mode switch (head engagement)	[open=off: close=engaged]
○ 12	L	L pin for motor	
○ 13	CrO2 A	Chrome tape detection switch deck A	[open=Cr: close=Fe]
○ 14	H	H pin for motor	

TAPE MECHANISM ELECTRONICS

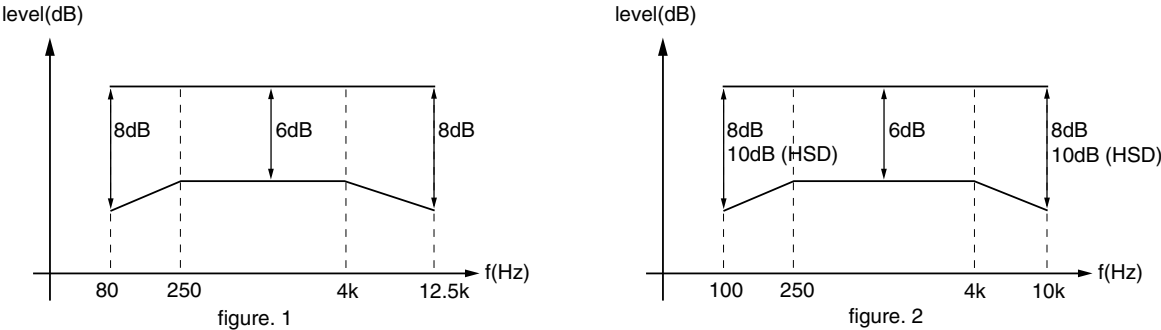


TAPE ADJUSTMENT & CHECK TABLE

	TEST CASSETTE	RECORDER MODE	MEASURE ON	READ ON	ADJUST	
					with	to
ADJUST MOTOR SPEED						
NORMAL SPEED	SBC420 3150Hz	PLAY B	<div>1</div> or <div>2</div> LEFT RIGHT	frequency counter	3620	3150Hz +/- 0.5%
		PLAY A			check	3150Hz -0.8/+1.8%
CHECK WOW & FLUTTER						
DECK A & B	SBC420 3150Hz	PLAY	<div>1</div> or <div>2</div> LEFT RIGHT	W&F-meter	check	<0.4 % DIN
ADJUST AZIMUTH						
DECK A & B	SBC420 10kHz	PLAY FWD	<div>1</div> or <div>2</div> LEFT RIGHT	mV-meter	left hand screw	max. output level & left=right
		PLAY REV #			right hand screw	
CHECK PLAYBACK FREQUENCY RESPONSE						
DECK A & B	SBC420	PLAY	<div>1</div> or <div>2</div> LEFT RIGHT	mV-meter	check	limits see fig.1
ADJUST BIAS CURRENT						
DECK B	SBC419A^	RECORD	<div>5</div> or <div>6</div> LEFT RIGHT	mV-meter	3773	995mV
	SBC420				check	750mV +/- 1.5dB
CHECK OVERALL FREQUENCY RESPONSE AND DISTORTION						
Inject 3mV signals 100Hz, 250Hz, 1kHz, 10kHz, 12.5kHz via <div>3</div> or <div>4</div>	SBC419A^ or SBC420	RECORD B				
	RECORDED CASSETTE	PLAY B	<div>1</div> or <div>2</div> LEFT RIGHT	mV-meter	check	limits see fig. 2 *
Inject 1kHz 8.85mV via <div>3</div> or <div>4</div>	SBC419A^ or SBC420	RECORD B				
	RECORDED CASSETTE	PLAY B	<div>1</div> or <div>2</div> LEFT RIGHT	THD-meter	check	<3% *

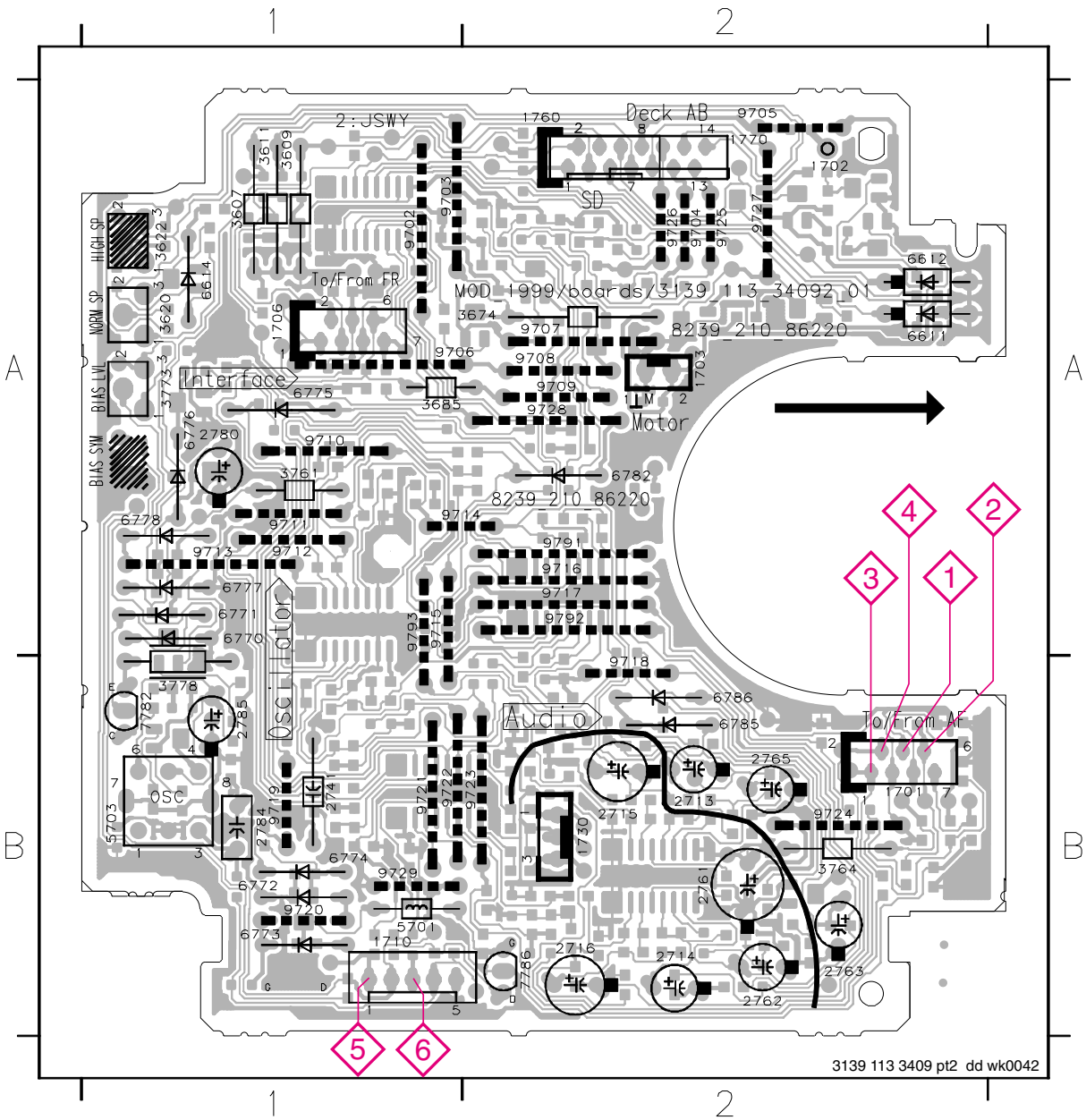
SBC419A^ : 4822 397 30069
SBC420 : 4822 397 30071

For Auto-reverse version only
* If high frequencies are not within limits, decrease bias and re-measure.
If distortion is too high, increase bias and re-measure
^ Not applicable for Ferro version



COMPONENT LAYOUT

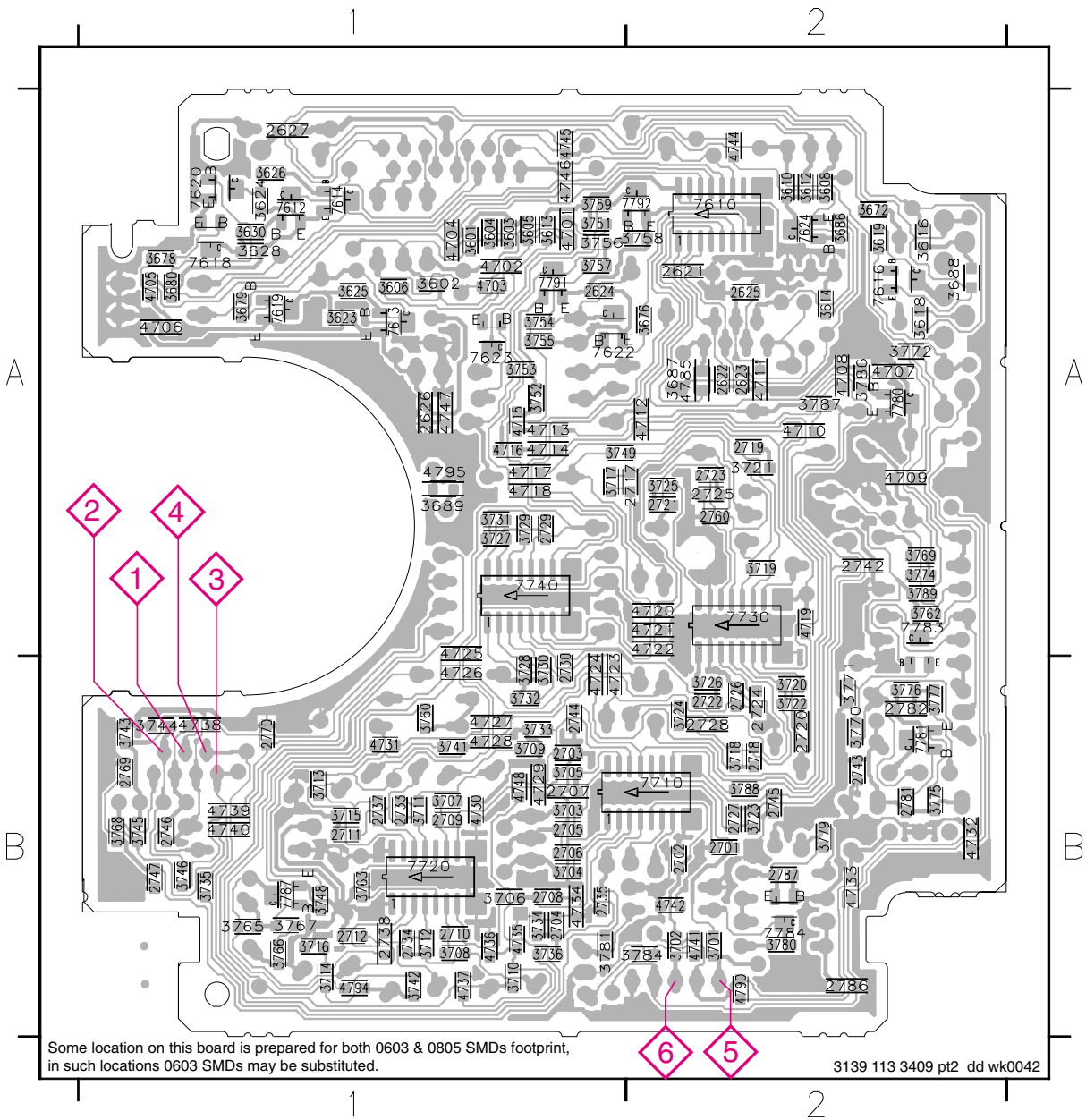
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1702	A2	2715	B2	2785	B1	3764	B2	6771	A1	6785	B2	9707	A2	9716	A2	9725	A2
1703	A2	2716	B2	3607	A1	3773	A1	6772	B1	6786	B2	9708	A2	9717	A2	9726	A2
1706	A1	2741	B1	3609	A1	3778	B1	6773	B1	7782	B1	9709	A2	9718	B2	9727	A2
1710	B1	2761	B2	3611	A1	5701	B1	6774	B1	7786	B2	9710	A1	9719	B1	9728	A2
1730	B2	2762	B2	3620	A1	5703	B1	6775	A1	9702	A1	9711	A1	9720	B1	9729	B1
1760	A2	2763	B2	3622	A1	6611	A2	6776	A1	9703	A1	9712	A1	9721	B1	9791	A2
1770	A2	2765	B2	3674	A2	6612	A2	6777	A1	9704	A2	9713	A1	9722	B1	9792	A2
2713	B2	2780	A1	3685	A1	6614	A1	6778	A1	9705	A2	9714	A1	9723	B2	9793	A1



3139 113 3409 pt2 dd wk0042

CHIP LAYOUT

2621	A2	2724	B2	3602	A1	3688	A2	3725	A2	3757	A1	4701	A1	4727	B1	7612	A1
2622	A2	2725	A2	3603	A1	3689	A1	3726	B2	3758	A2	4702	A1	4728	B1	7613	A1
2623	A2	2726	B2	3604	A1	3701	B2	3727	A1	3759	A1	4703	A1	4729	B1	7614	A1
2624	A1	2727	B2	3605	A1	3702	B2	3728	B1	3760	B1	4704	A1	4730	B1	7616	A2
2625	A2	2728	B2	3606	A1	3703	B1	3729	A1	3762	A2	4705	A1	4731	B1	7618	A1
2626	A1	2729	A1	3608	A2	3704	B1	3730	B1	3763	B1	4706	A1	4732	B2	7619	A1
2627	A1	2730	B1	3610	A2	3705	B1	3731	A1	3765	B1	4707	A2	4733	B2	7620	A1
2701	B2	2733	B1	3612	A2	3706	B1	3732	B1	3766	B1	4708	A2	4734	B1	7622	A1
2702	B2	2734	B1	3613	A1	3707	B1	3733	B1	3767	B1	4709	A2	4735	B1	7623	A1
2703	B1	2735	B1	3614	A2	3708	B1	3734	B1	3768	B1	4710	A2	4736	B1	7624	A2
2704	B1	2737	B1	3616	A2	3709	B1	3735	B1	3769	A2	4711	A2	4737	B1	7710	B2
2705	B1	2738	B1	3618	A2	3710	B1	3736	B1	3770	B2	4712	A2	4738	B1	7720	B1
2706	B1	2742	A2	3619	A2	3711	B1	3741	B1	3771	B2	4713	A1	4739	B1	7730	A2
2707	B1	2743	B2	3623	A1	3712	B1	3742	B1	3772	A2	4714	A1	4740	B1	7740	A1
2708	B1	2744	B1	3624	A1	3713	B1	3743	B1	3774	A2	4715	A1	4741	B2	7780	A2
2709	B1	2745	B2	3625	A1	3714	B1	3744	B1	3775	B2	4716	A1	4742	B2	7781	B2
2710	B1	2746	B1	3626	A1	3715	B1	3745	B1	3776	B2	4717	A1	4744	A2	7783	A2
2711	B1	2747	B1	3628	A1	3716	B1	3746	B1	3777	B2	4718	A1	4745	A1	7784	B2
2712	B1	2760	A2	3630	A1	3717	A1	3748	B1	3779	B2	4719	A2	4746	A1	7787	B1
2717	A2	2769	B1	3672	A2	3718	B2	3749	A1	3780	B2	4720	A2	4747	A1	7791	A1
2718	B2	2770	A1	3676	A1	3719	A2	3751	A1	3781	B1	4721	A2	4748	B1	7792	A2
2719	A2	2781	B2	3678	A2	3720	B2	3752	A1	3784	B2	4722	A2	4785	A2		
2720	B2	2782	B2	3679	A1	3721	A2	3753	A1	3786	A2	4723	B1	4790	B2		
2721	A2	2786	B2	3680	A1	3722	B2	3754	A1	3787	A2	4724	B1	4794	B1		
2722	B2	2787	B2	3686	A2	3723	B2	3755	A1	3788	B2	4725	A1	4795	A1		
2723	A2	3601	A1	3687	A2	3724	B2	3756	A1	3789	A2	4726	B1	7610	A2		

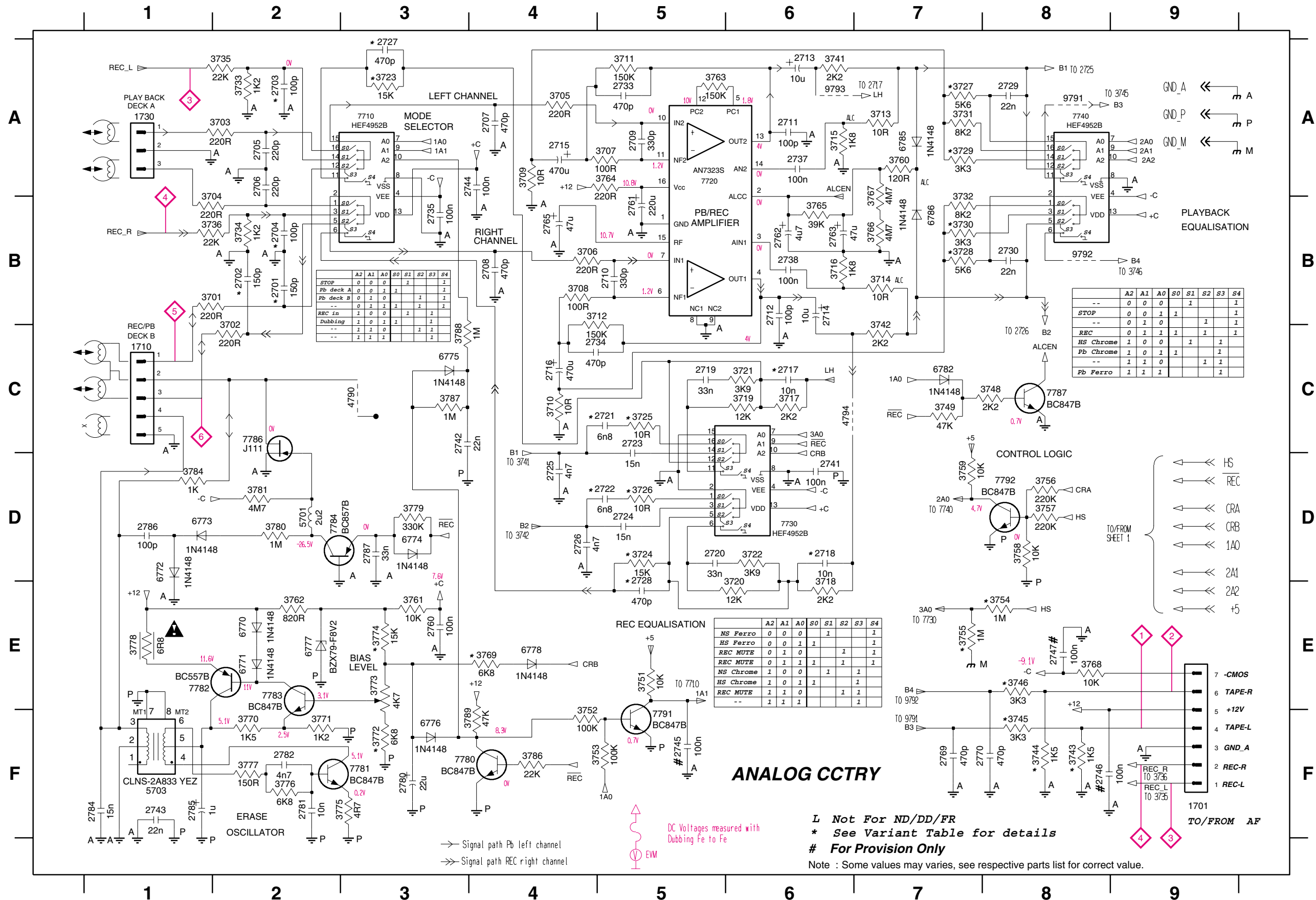


Some location on this board is prepared for both 0603 & 0805 SMDs footprint, in such locations 0603 SMDs may be substituted.

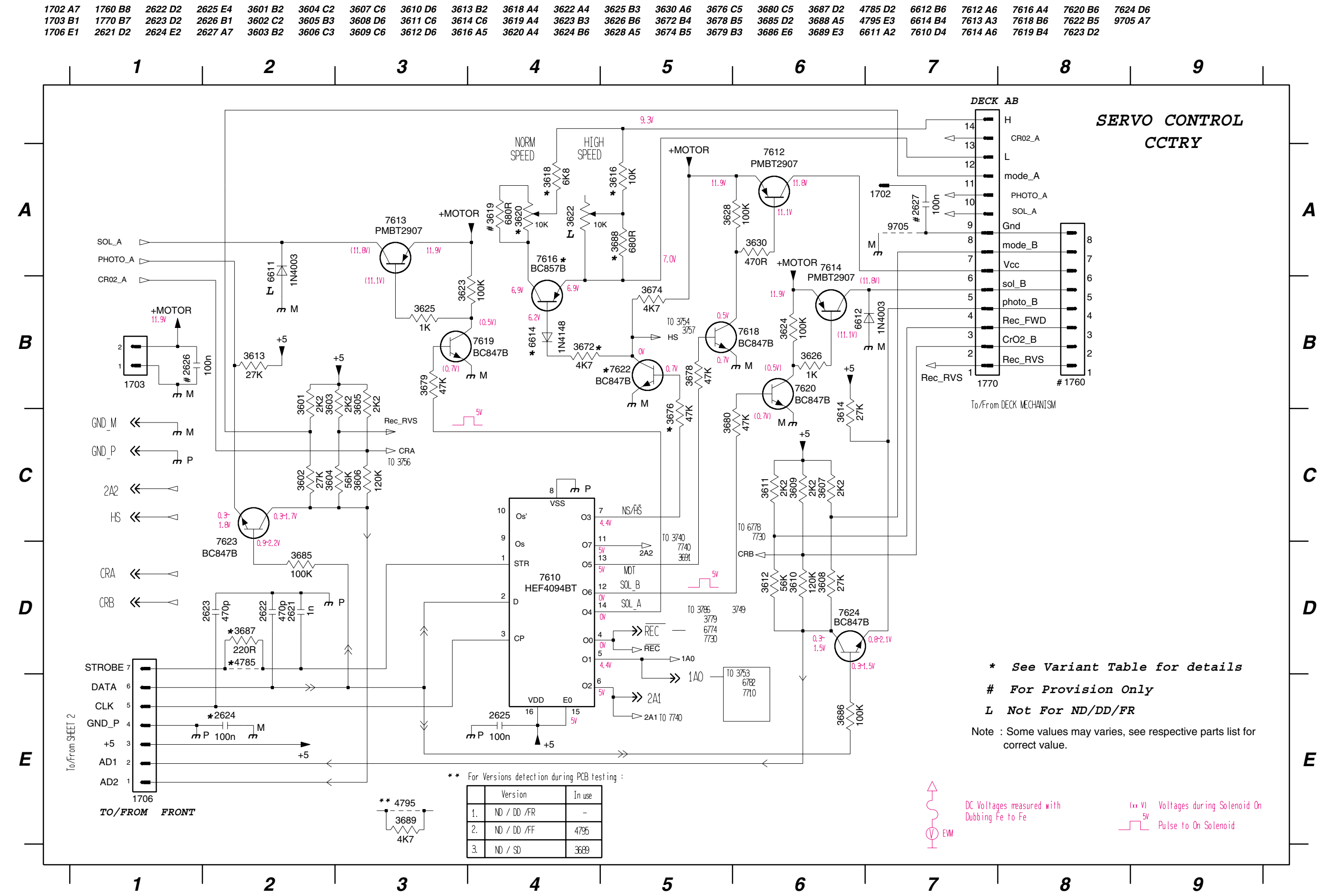
3139 113 3409 pt2 dd wk0042

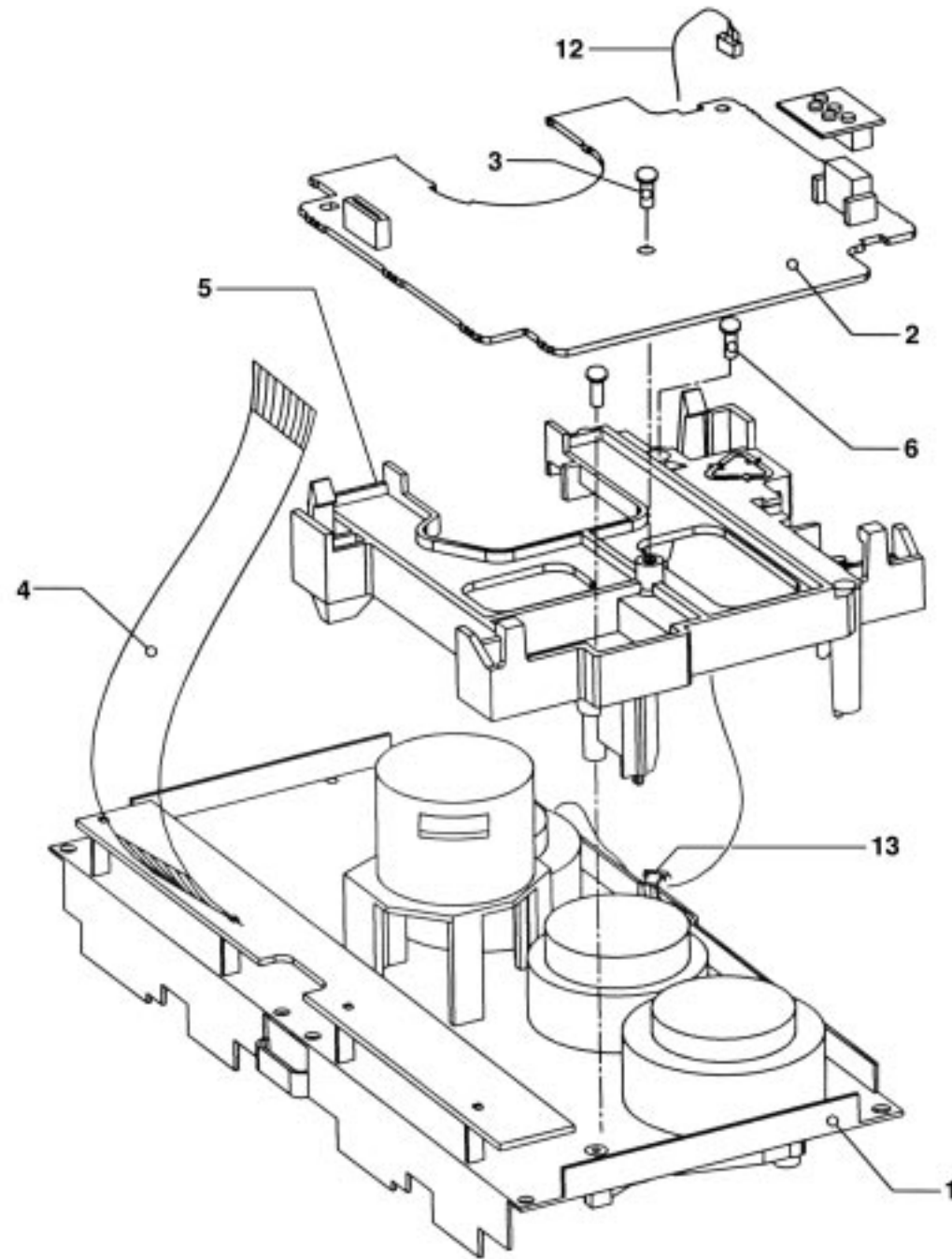
ANALOG CIRCUIT

1701 F9	2705 A2	2712 B6	2719 C5	2726 D4	2735 B3	2745 F5	2765 B4	2785 F1	3705 A4	3712 B4	3719 C6	3726 D5	3733 A2	3744 F8	3753 F5	3760 A7	3767 A7	3774 E3	3781 D2	4794 C6	6774 D3	6786 B7	7782 E1	9791 A8
1710 C1	2706 A2	2713 A6	2720 D5	2727 A3	2737 A6	2746 F8	2769 F7	2786 D1	3706 B4	3713 A7	3720 E6	3727 A7	3734 B2	3745 F8	3754 E8	3761 E3	3768 E8	3775 F3	3784 D1	5701 D2	6775 C3	7710 A3	7783 E2	9792 B8
1730 A1	2707 A4	2714 B6	2721 C5	2728 E5	2738 B6	2747 E8	2770 F8	2787 D3	3707 A5	3714 B7	3721 C6	3728 B7	3735 A2	3746 E8	3755 E7	3762 E2	3769 E4	3776 F2	3786 F4	5703 F1	6776 F3	7720 A5	7784 D2	9793 A6
2701 B2	2708 B4	2715 A4	2722 D5	2729 A8	2741 D6	2760 E3	2780 F3	3701 B1	3708 B4	3715 A6	3722 D6	3729 A7	3736 B1	3748 C8	3756 D8	3763 A5	3770 F2	3777 F2	3787 C3	6770 E2	6777 E2	7730 D6	7786 C2	
2702 B2	2709 A5	2716 C4	2723 C5	2730 B8	2742 C3	2761 B5	2781 F2	3702 C2	3709 A4	3716 B6	3723 A3	3730 B7	3741 A6	3749 C7	3757 D8	3764 A5	3771 F2	3778 E1	3788 C3	6771 E2	6778 E4	7740 A8	7787 C8	
2703 A2	2710 B5	2717 C6	2724 D5	2733 A5	2743 F1	2762 B6	2782 F2	3703 A2	3710 C4	3717 C6	3724 D5	3731 A7	3742 C7	3751 E5	3758 D8	3765 B6	3772 F3	3779 D3	3789 F4	6772 D1	6782 C7	7780 F4	7791 F5	
2704 B2	2711 A6	2718 D6	2725 D4	2734 C4	2744 A4	2763 B6	2784 F1	3704 B1	3711 A5	3718 E6	3725 C5	3732 B7	3743 F8	3752 F4	3759 D7	3766 B7	3773 E3	3780 D2	4790 C3	6773 D1	6785 A7	7781 F3	7792 D8	



SERVO CONTROL CIRCUIT



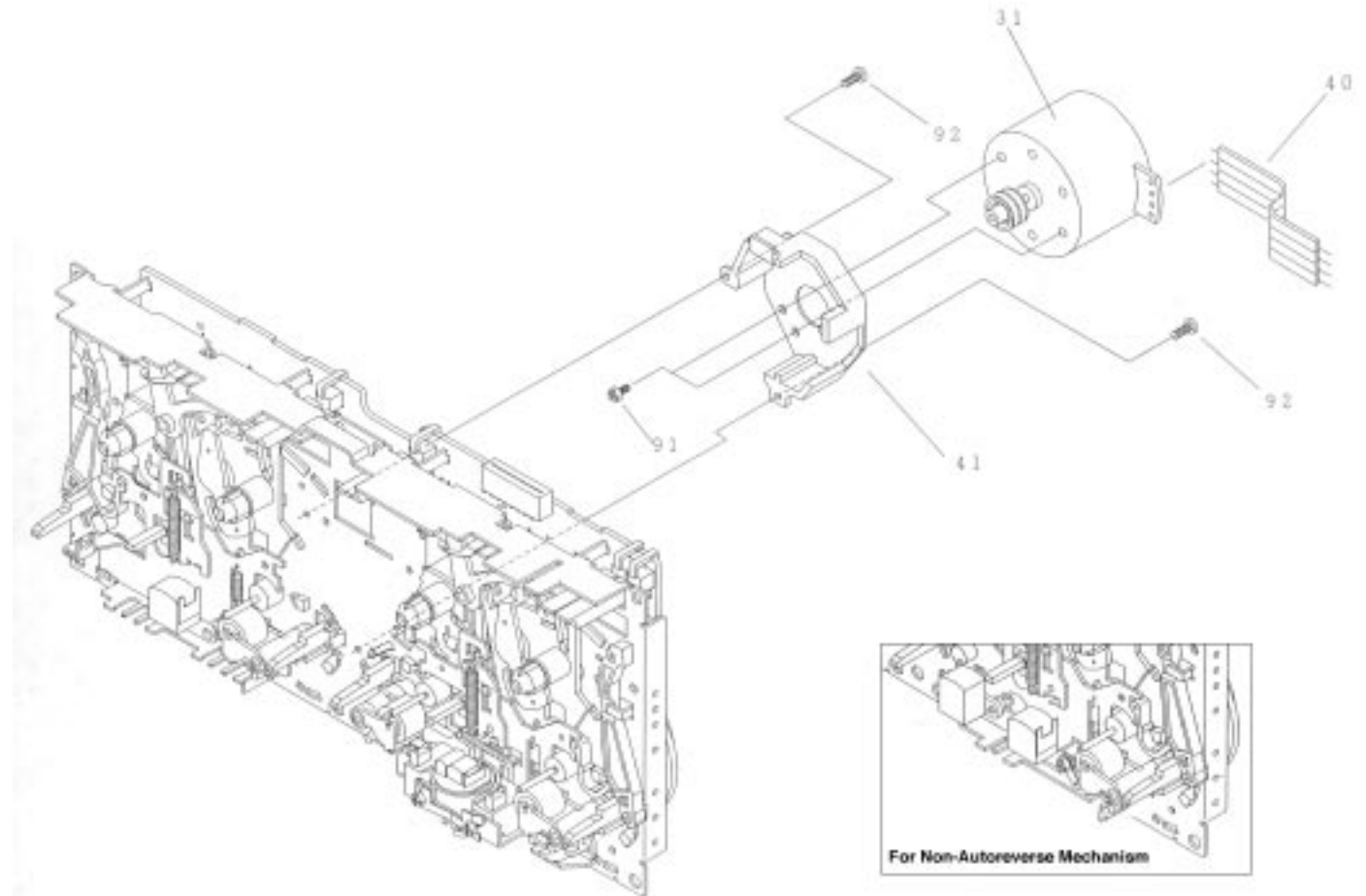


3139 118 77070 (incl. ...77080) dd wir205

TAPE MODULE EXPLODED VIEW

1	3139 118 77130	Autoreverse Mech. CWE44FR01
1	3139 118 77140	Non-Autoreverse Mech. CWE44FF02 Chrome/Ferro
1	3139 118 77950	Non-Autoreverse Mech. CWE44FF05 Ferro
3	-	Screw D3 x 10
6	-	Screw M2 x 16
7	3139 110 34080	Flex Cable 14 pin 7,5 cm

Note: Only the parts mentioned in this list are normal service spare parts.

**TAPE MECHANISM - MOTOR EXPLODED VIEW**

31	4822 361 11055	Motor Assembly
91	-	Screw M2,6 x 5
92	-	Screw M2 x 5

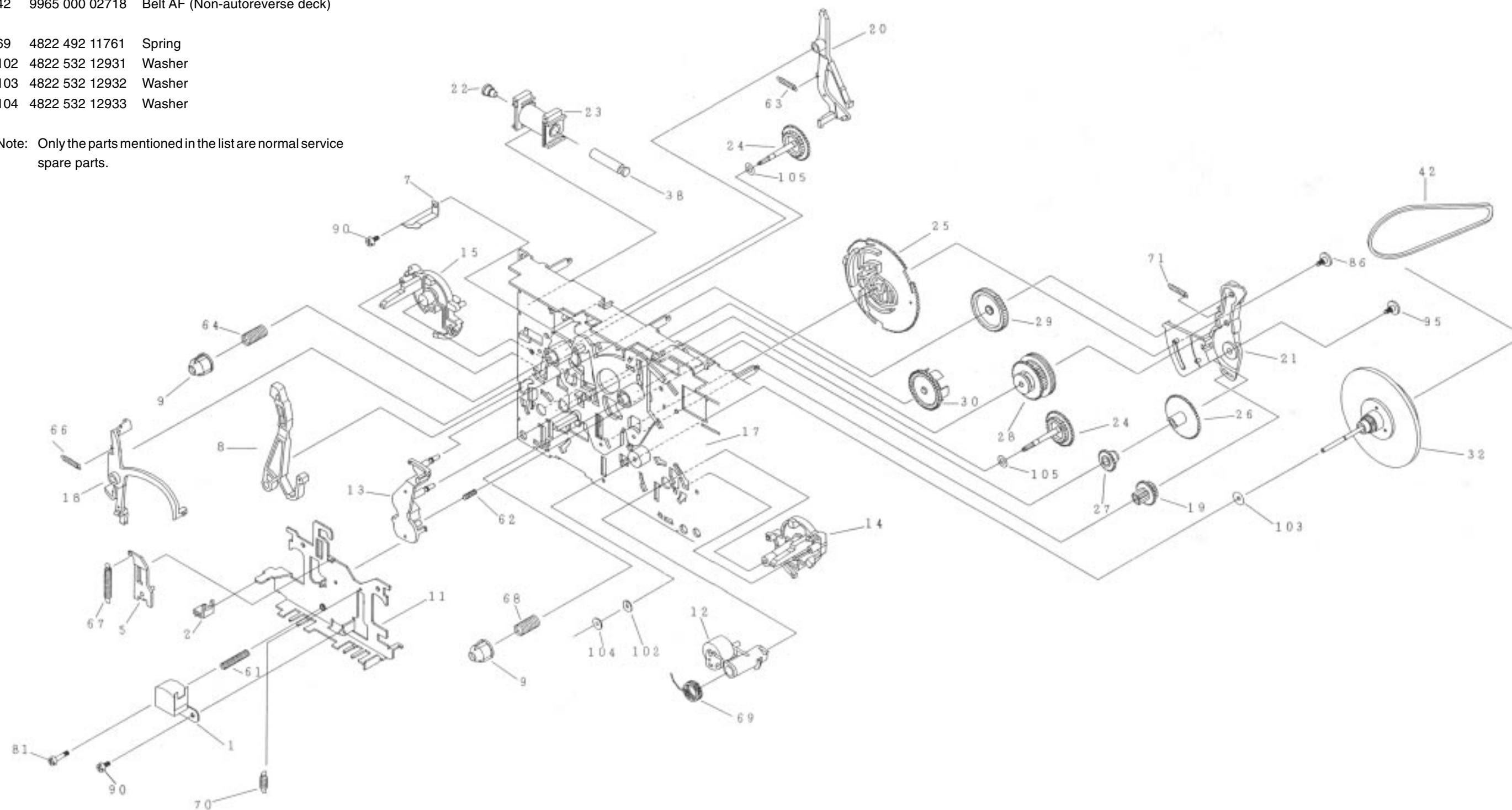
Note: Only the parts mentioned in this list are normal service spare parts.

TAPE MECHANISM A - PLAY

MECHANICAL PARTS - PLAY MECHANISM

1	9965 000 02313	Play Head (Non-Autoreverse deck)
1	9965 000 02321	Play Head (Autoreverse deck)
12	4822 402 10972	Pinch Arm Assembly R
23	9965 000 02314	Coil Assembly
25	9965 000 06443	Cam Gear
32	4822 528 11209	Flywheel Assembly RV
42	9965 000 02315	Belt AF (Autoreverse deck)
42	9965 000 02718	Belt AF (Non-autoreverse deck)
69	4822 492 11761	Spring
102	4822 532 12931	Washer
103	4822 532 12932	Washer
104	4822 532 12933	Washer

Note: Only the parts mentioned in the list are normal service spare parts.

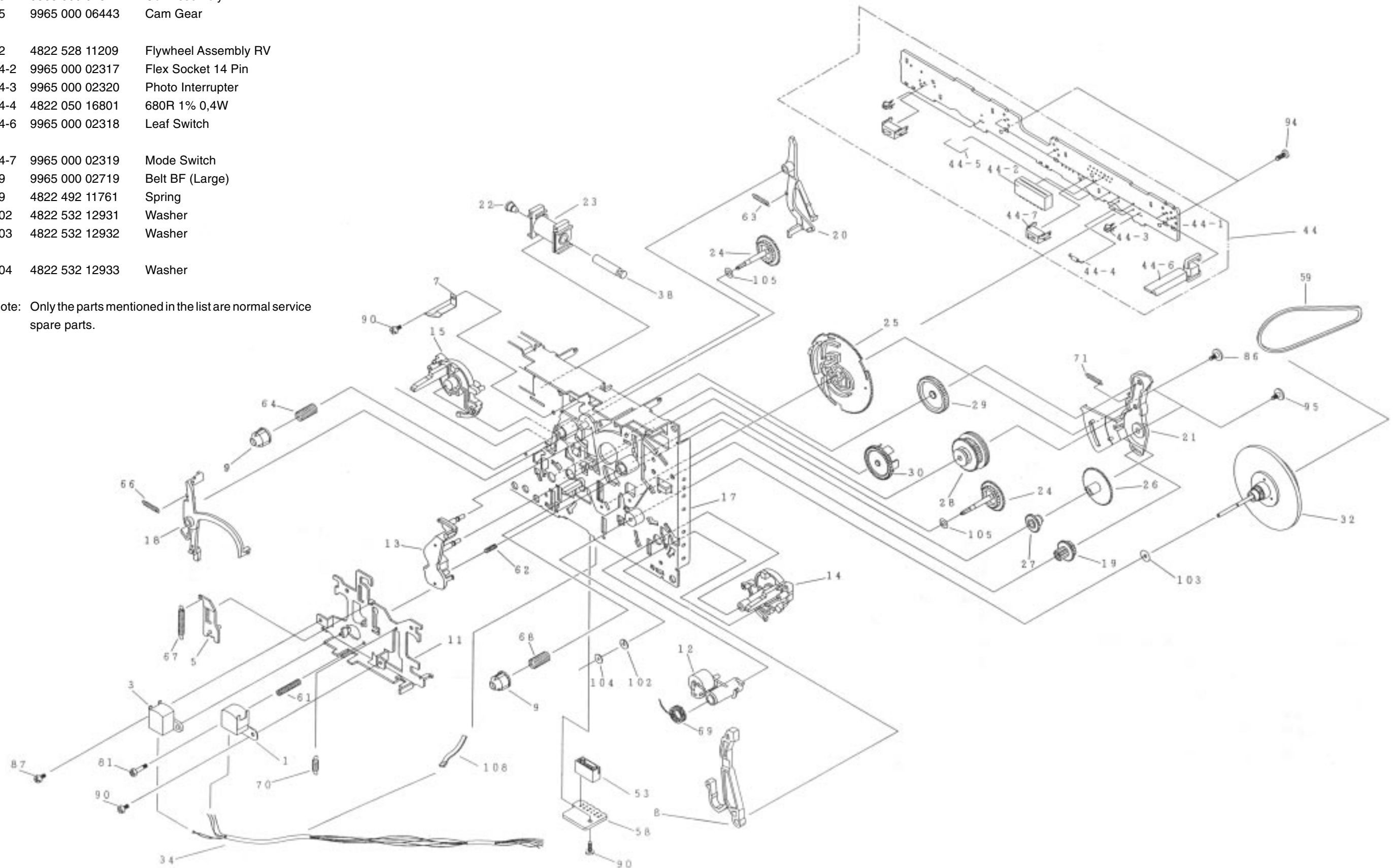


TAPE MECHANISM B - RECORD/PLAYBACK (Non-Autoreverse version)

MECHANICAL PARTS - REC/PB MECHANISM

1	9965 000 02313	Play Head
3	9965 000 02600	Head, Erase
12	4822 402 10972	Pinch Arm Assembly R
23	9965 000 02314	Coil Assembly
25	9965 000 06443	Cam Gear
32	4822 528 11209	Flywheel Assembly RV
44-2	9965 000 02317	Flex Socket 14 Pin
44-3	9965 000 02320	Photo Interrupter
44-4	4822 050 16801	680R 1% 0,4W
44-6	9965 000 02318	Leaf Switch
44-7	9965 000 02319	Mode Switch
59	9965 000 02719	Belt BF (Large)
69	4822 492 11761	Spring
102	4822 532 12931	Washer
103	4822 532 12932	Washer
104	4822 532 12933	Washer

Note: Only the parts mentioned in the list are normal service spare parts.



TAPE MECHANISM B - RECORD/PLAYBACK (Autoreverse version)**MECHANICAL PARTS - REC/PB MECHANISM**

12	4822 402 10972	Pinch Arm Assembly R
23	9965 000 02314	Coil Assembly
25	9965 000 06443	Cam Gear
32	4822 528 11209	Flywheel Assembly RV
39	9965 000 02322	Belt AF

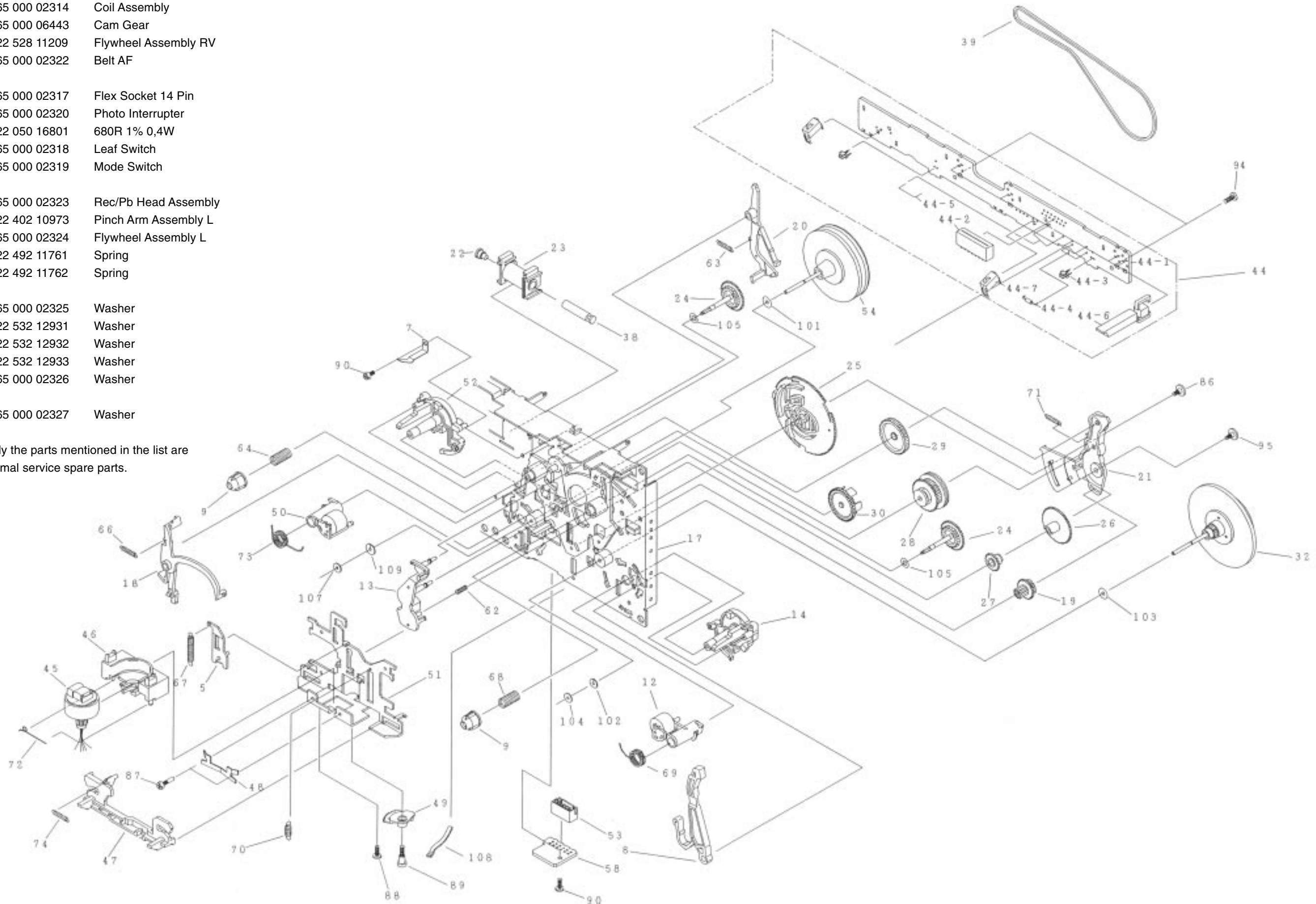
44-2	9965 000 02317	Flex Socket 14 Pin
44-3	9965 000 02320	Photo Interrupter
44-4	4822 050 16801	680R 1% 0,4W
44-6	9965 000 02318	Leaf Switch
44-7	9965 000 02319	Mode Switch

45	9965 000 02323	Rec/Pb Head Assembly
50	4822 402 10973	Pinch Arm Assembly L
54	9965 000 02324	Flywheel Assembly L
69	4822 492 11761	Spring
73	4822 492 11762	Spring

101	9965 000 02325	Washer
102	4822 532 12931	Washer
103	4822 532 12932	Washer
104	4822 532 12933	Washer
107	9965 000 02326	Washer

109	9965 000 02327	Washer
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Note: Only the parts mentioned in the list are normal service spare parts.



ELECTRICAL PARTS LIST - ETF7 NON-DOLBY BOARD**MISCELLANEOUS**

1701	482226710953	Flex Socket 7pin Vert.
1706	482226710953	Flex Socket 7pin Vert.
1770	482226751255	Flex Socket 14pin Vert.

CAPACITORS

2621	532212231647	1nF 10% 63V
2622	532212234099	470pF 10% 63V
2623	532212234099	470pF 10% 63V
2624	482212614585	100nF 10% 50V only for Ferro
2625	482212614585	100nF 10% 50V
2701	532212233538	150pF 2% 63V Autoreverse
2701	482212233216	270pF 5% 63V Non-autoreverse
2702	532212233538	150pF 2% 63V Autoreverse
2702	482212233216	270pF 5% 63V Non-autoreverse
2703	532212232531	100pF 5% 50V Autoreverse
2703	482212233575	220pF 5% 63V Non-autoreverse
2704	532212232531	100pF 5% 50V Autoreverse
2704	482212233575	220pF 5% 63V Non-autoreverse
2705	482212233575	220pF 5% 63V
2706	482212233575	220pF 5% 63V
2707	532212234099	470pF 10% 63V
2708	532212234099	470pF 10% 63V
2709	532212231863	330pF 5% 63V
2710	532212231863	330pF 5% 63V
2711	532212232531	100pF 5% 50V
2712	532212232531	100pF 5% 50V
2713	482212440248	10μF 20% 63V
2714	482212440248	10μF 20% 63V
2715	482212480195	470μF 20% 10V
2716	482212480195	470μF 20% 10V
2717	482212233177	10nF 20% 50V Autoreverse
2717	482212613188	15nF 5% 63V Non-autoreverse
2718	482212233177	10nF 20% 50V Autoreverse
2718	482212613188	15nF 5% 63V Non-autoreverse
2719	482212612105	33nF 5% 50V
2720	482212612105	33nF 5% 50V
2721	532212231866	6,8nF 10% 63V not for Ferro
2722	532212231866	6,8nF 10% 63V not for Ferro
2723	482212613188	15nF 5% 63V
2724	482212613188	15nF 5% 63V
2725	532212610223	4,7nF 10% 63V
2726	532212610223	4,7nF 10% 63V
2727	532212234099	470pF 10% 63V Autoreverse
2727	532212231647	1nF 10% 63V Non-autoreverse
2728	532212234099	470pF 10% 63V Autoreverse
2728	532212231647	1nF 10% 63V Non-autoreverse
2729	532212232654	22nF 10% 63V
2730	532212232654	22nF 10% 63V
2733	532212234099	470pF 10% 63V
2734	532212234099	470pF 10% 63V
2735	482212614585	100nF 10% 50V
2737	482212614585	100nF 10% 50V

2738	482212614585	100nF 10% 50V
2741	482212611585	22nF +80/-20% 25V
2742	532212232654	22nF 10% 63V
2743	532212232654	22nF 10% 63V
2744	482212614585	100nF 10% 50V
2760	482212614585	100nF 10% 50V
2761	482212480144	220μF 20% 25V
2762	482212440769	4,7μF 20% 100V
2763	482212440433	47μF 20% 25V
2765	482212440433	47μF 20% 25V
2769	532212234099	470pF 10% 63V
2770	532212234099	470pF 10% 63V
2780	482212481151	22μF 20% 50V
2781	482212233177	10nF 20% 50V
2782	532212610223	4,7nF 10% 63V
2784	482212151305	15nF 10% 50V
2785	482212421913	1μF 20% 63V
2786	532212232531	100pF 5% 50V
2787	482212612105	33nF 5% 50V

RESISTORS

3601	482211711449	2k2 1% 0,1W
3602	482205120273	27k 5% 0,1W
3603	482211711449	2k2 1% 0,1W
3604	482211711148	56k 1% 0,1W
3605	482211711449	2k2 1% 0,1W
3606	482205120124	120k 5% 0,1W
3607	482211652256	2k2 5% 0,5W
3608	482205120273	27k 5% 0,1W
3609	482211652256	2k2 5% 0,5W
3610	482205120124	120k 5% 0,1W
3611	482211652256	2k2 5% 0,5W
3612	482211711148	56k 1% 0,1W
3613	482205120273	27k 5% 0,1W
3614	482205120273	27k 5% 0,1W
3616	482211710833	10k 1% 0,1W Autoreverse
3616	482205110102	1k 2% 0,25W Non-autoreverse
3618	482211711507	6k8 1% 0,1W Autoreverse
3620	482210011141	Trim. 10k 30% Autoreverse
3622	482210011141	Trim. 10k 30% Non-autoreverse
3623	482211710837	100k 1% 0,1W
3624	482211710837	100k 1% 0,1W
3625	482205110102	1k 2% 0,25W
3626	482205110102	1k 2% 0,25W
3628	482211710837	100k 1% 0,1W
3630	482205120471	470R 5% 0,1W
3672	482205120472	4k7 5% 0,1W Autoreverse
3674	482211652283	4k7 5% 0,5W
3676	482211710834	47k 1% 0,1W Autoreverse
3678	482211710834	47k 1% 0,1W
3679	482211710834	47k 1% 0,1W
3680	482211710834	47k 1% 0,1W

ELECTRICAL PARTS LIST - ETF7 NON-DOLBY BOARD

3685	482211652234	100k 5% 0,5W
3686	482211710837	100k 1% 0,1W
3687	482211711503	220R 1% 0,1W not for Ferro
3688	482211710361	680R 1% 0,1W Autoreverse
3701	482211711503	220R 1% 0,1W
3702	482211711503	220R 1% 0,1W
3703	482211711503	220R 1% 0,1W
3704	482211711503	220R 1% 0,1W
3705	482211711503	220R 1% 0,1W
3706	482211711503	220R 1% 0,1W
3707	482205120101	100R 5% 0,1W
3708	482205120101	100R 5% 0,1W
3709	482205120109	10R 5% 0,1W
3710	482205120109	10R 5% 0,1W
3711	482205120154	150k 5% 0,1W
3712	482205120154	150k 5% 0,1W
3713	482205120109	10R 5% 0,1W
3714	482205120109	10R 5% 0,1W
3715	482205120182	1k8 5% 0,1W
3716	482205120182	1k8 5% 0,1W
3717	482211711449	2k2 1% 0,1W
3718	482211711449	2k2 1% 0,1W
3719	482211711383	12k 1% 0,1W
3720	482211711383	12k 1% 0,1W
3721	482205120392	3k9 5% 0,1W
3722	482205120392	3k9 5% 0,1W
3723	482211683933	15k 1% 0,1W Autoreverse
3723	482211710965	18k 1% 0,1W Non-autoreverse
3724	482211683933	15k 1% 0,1W Autoreverse
3724	482211710965	18k 1% 0,1W Non-autoreverse
3725	482205120109	10R 5% 0,1W not for Ferro
3726	482205120109	10R 5% 0,1W not for Ferro
3727	482205120562	5k6 5% 0,1W Autoreverse
3727	482211711507	6k8 1% 0,1W Non-autoreverse
3728	482205120562	5k6 5% 0,1W Autoreverse
3728	482211711507	6k8 1% 0,1W Non-autoreverse
3729	482205120332	3k3 5% 0,1W Autoreverse
3729	482205120472	4k7 5% 0,1W Non-autoreverse
3730	482205120332	3k3 5% 0,1W Autoreverse
3730	482205120472	4k7 5% 0,1W Non-autoreverse
3731	482205120822	8k2 5% 0,1W
3732	482205120822	8k2 5% 0,1W
3733	482205120122	1k2 5% 0,1W
3734	482205120122	1k2 5% 0,1W
3735	482205120223	22k 5% 0,1W
3736	482205120223	22k 5% 0,1W
3741	482211711449	2k2 1% 0,1W
3742	482211711449	2k2 1% 0,1W
3743	482211711139	1k5 1% 0,1W Autoreverse
3743	482211711449	2k2 1% 0,1W Non-autoreverse
3744	482211711139	1k5 1% 0,1W Autoreverse
3744	482211711449	2k2 1% 0,1W Non-autoreverse

3745	482205120332	3k3 5% 0,1W Autoreverse
3745	482205120562	5k6 5% 0,1W Non-autoreverse
3746	482205120332	3k3 5% 0,1W Autoreverse
3746	482205120562	5k6 5% 0,1W Non-autoreverse
3748	482211711449	2k2 1% 0,1W
3749	482211710834	47k 1% 0,1W
3751	482211710833	10k 1% 0,1W
3752	482211710837	100k 1% 0,1W
3753	482211710837	100k 1% 0,1W
3754	482205120105	1M 5% 0,1W Autoreverse
3754	482205120479	47R 5% 0,1W Non-autoreverse
3755	482205120105	1M 5% 0,1W Autoreverse
3755	482205120479	47R 5% 0,1W Non-autoreverse
3756	482211713579	220k 1% 0,1W
3757	482211713579	220k 1% 0,1W
3758	482211710833	10k 1% 0,1W
3759	482211710833	10k 1% 0,1W
3760	482205120121	120R 5% 0,1W
3761	482205021003	10k 1% 0,6W
3762	482211711454	820R 1% 0,1W
3763	482205120154	150k 5% 0,1W
3764	482211683872	220R 5% 0,5W
3765	482205120393	39k 5% 0,1W
3766	482205120475	4M7 5% 0,1W
3767	482205120475	4M7 5% 0,1W
3768	482211710833	10k 1% 0,1W
3769	482211711383	12k 1% 0,1W Autoreverse
3769	482205120822	8k2 5% 0,1W Non-autoreverse
3770	482211711139	1k5 1% 0,1W
3771	482205120122	1k2 5% 0,1W
3772	482211711507	6k8 1% 0,1W Autoreverse
3772	482205120562	5k6 5% 0,1W Non-autoreverse
3773	482210012227	Trimmer 4k7 30% 0,1W
3774	482211683933	15k 1% 0,1W Autoreverse
3774	482205120822	8k2 5% 0,1W Non-autoreverse
3775	482205120478	4R7 5% 0,1W
3776	482211711507	6k8 1% 0,1W
3777	482211710353	150R 1% 0,1W
3778	482205210688	△ 6R8 5% 0,33W
3779	482205120334	330k 5% 0,1W
3780	482205120105	1M 5% 0,1W
3781	482205120475	4M7 5% 0,1W
3784	482205110102	1k 2% 0,25W
3786	482205120223	22k 5% 0,1W
3787	482205120105	1M 5% 0,1W
3788	482205120105	1M 5% 0,1W
3789	482211710834	47k 1% 0,1W
4701	482205120008	0R Jumper 0805
4702	482205120008	0R Jumper 0805
4703	482205120008	0R Jumper 0805
4704	482205120008	0R Jumper 0805
4705	482205120008	0R Jumper 0805

ELECTRICAL PARTS LIST - ETF7 NON-DOLBY BOARD**RESISTORS**

4706	482205120008	OR Jumper 0805	6612	482213031878	1N4003G	
4707	482205120008	OR Jumper 0805	6614	482213030621	1N4148	Autoreverse
4708	482205120008	OR Jumper 0805	6770	482213030621	1N4148	
4709	482205120008	OR Jumper 0805	6771	482213030621	1N4148	
4710	482205120008	OR Jumper 0805	6772	482213030621	1N4148	
4711	482205120008	OR Jumper 0805	6773	482213030621	1N4148	
4712	482205120008	OR Jumper 0805	6774	482213030621	1N4148	
4713	482205120008	OR Jumper 0805	6775	482213030621	1N4148	
4714	482205120008	OR Jumper 0805	6776	482213030621	1N4148	
4715	482205120008	OR Jumper 0805	6777	482213034382	BZX79-F8V2	
4716	482205120008	OR Jumper 0805	6778	482213030621	1N4148	
4717	482205120008	OR Jumper 0805	6782	482213030621	1N4148	
4718	482205120008	OR Jumper 0805	6785	482213030621	1N4148	
4719	482205120008	OR Jumper 0805	6786	482213030621	1N4148	
4720	482205120008	OR Jumper 0805				
4721	482205120008	OR Jumper 0805				
4722	482205120008	OR Jumper 0805				
4723	482205120008	OR Jumper 0805				
4724	482205120008	OR Jumper 0805				
4725	482205120008	OR Jumper 0805				
4726	482205120008	OR Jumper 0805				
4727	482205120008	OR Jumper 0805				
4728	482205120008	OR Jumper 0805				
4729	482205120008	OR Jumper 0805				
4730	482205120008	OR Jumper 0805				
4731	482205120008	OR Jumper 0805				
4732	482205120008	OR Jumper 0805				
4733	482205120008	OR Jumper 0805				
4734	482205120008	OR Jumper 0805				
4735	482205120008	OR Jumper 0805				
4736	482205120008	OR Jumper 0805				
4737	482205120008	OR Jumper 0805				
4738	482205120008	OR Jumper 0805				
4739	482205120008	OR Jumper 0805				
4740	482205120008	OR Jumper 0805				
4741	482205120008	OR Jumper 0805				
4742	482205120008	OR Jumper 0805				
4744	482205120008	OR Jumper 0805				
4745	482205120008	OR Jumper 0805				
4746	482205120008	OR Jumper 0805				
4748	482205120008	OR Jumper 0805				
4785	482205120008	OR Jumper 0805 only for Ferro				
4790	482205120008	OR Jumper 0805				
4794	482205120008	OR Jumper 0805				
4795	482205120008	OR Jumper 0805				

TRANSISTORS & INTEGRATED CIRCUITS

7610	532220911306	HEF4094BT	
7612	482213011201	PMBT2907	
7613	482213011201	PMBT2907	
7614	482213011201	PMBT2907	
7616	482213060373	BC857B	Autoreverse
7618	482213060511	BC847B	
7619	482213060511	BC847B	
7620	482213060511	BC847B	
7622	482213060511	BC847B	Autoreverse
7623	482213060511	BC847B	
7624	482213060511	BC847B	
7710	482220932919	HEF4952BT	
7720	932214000668	AN7323S	
7730	482220932919	HEF4952BT	
7740	482220932919	HEF4952BT	
7780	482213060511	BC847B	
7781	482213042804	BC817-25	
7782	482213044568	BC557B	
7783	482213060511	BC847B	
7784	482213060373	BC857B	
7786	482213063494	J111	
7787	482213060511	BC847B	
7791	482213060511	BC847B	
7792	482213060511	BC847B	

Note: Only the parts mentioned in this list are normal service spare parts.

COILS & FILTERS

5701	482215711477	Coil 2,2μH 5%
5703	482215620946	Osc Coil 100kHz

DIODES

6611	482213031878	1N4003G
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3CDC-LLC-DA11

(3 Disc Carousel Changer)

Layout stage .3

TABLE OF CONTENTS

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Service hints

CAUTION

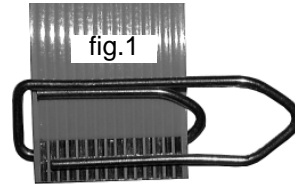
CHARGED CAPACITORS ON THE SERVO BOARD MAY DAMAGE THE CD DRIVE ELECTRONICS WHEN CONNECTING A NEW CD MECHANISM. THAT'S WHY, BESIDES THE SAFETY MEASURES LIKE

- **SWITCH OFF POWER SUPPLY**
- **ESD PROTECTION**

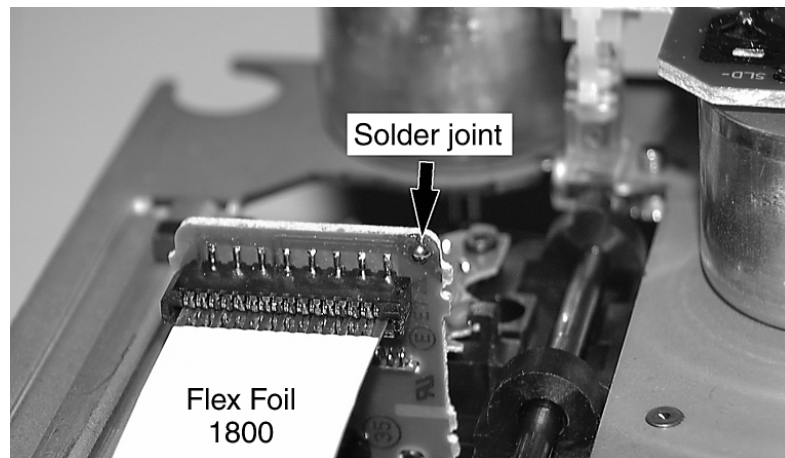
ADDITIONAL ACTIONS MUST BE TAKEN BY THE REPAIR TECHNICIAN.

The following steps have to be done when replacing the CD mechanism:

1. Disconnect flexfoil cable from the old CD drive
2. Put a paperclip on the flexfoil to short-circuit the contacts (fig.1)
3. Remove the old CD drive
4. Remove paperclip from the flexfoil and connect it to the new drive
5. Position the new CD drive in its studs
6. Remove solder joint from the Laserunit



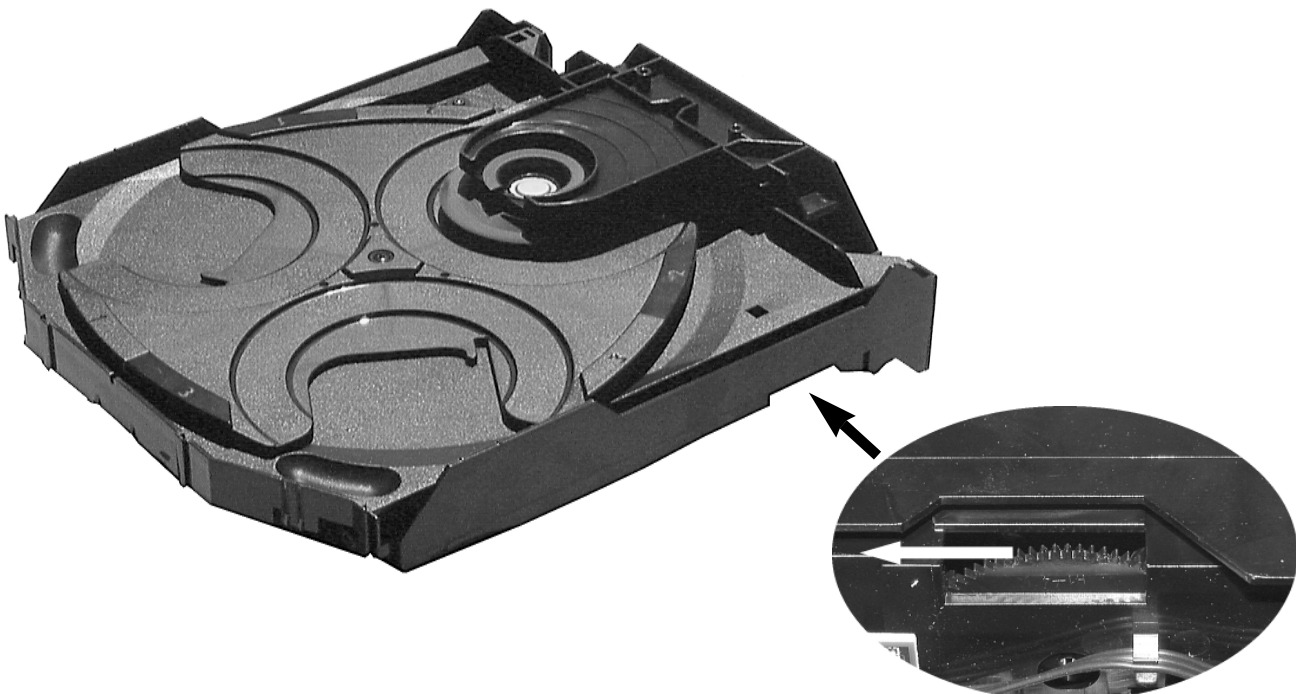
Attention: The laser diode of this CD drive is protected against ESD by a solder joint which shortcircuits the laserdiode to ground.
For proper functionality of the CD drive this solder joint must be removed **after** connection the drive to the set.



Emergency open

In case of a Supply fault, the tray can be opened manually.

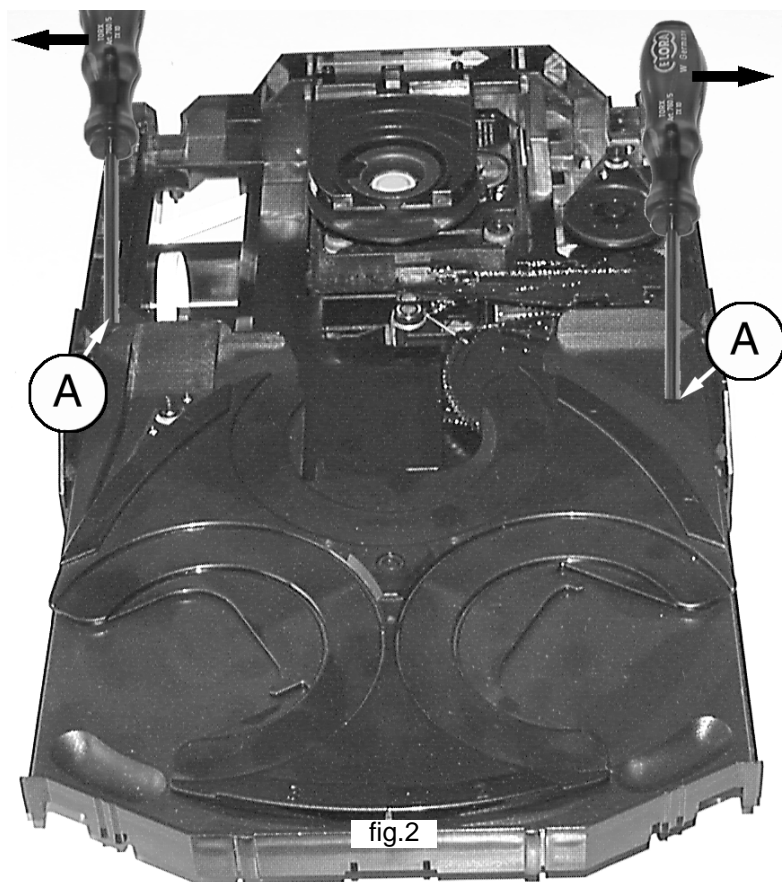
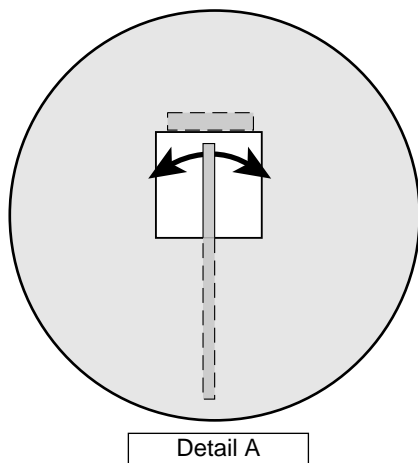
1. Remove the top cover of the set to get access to the Changer Module.
2. Turn gearwheel clockwise (as shown in picture below).



Service hints

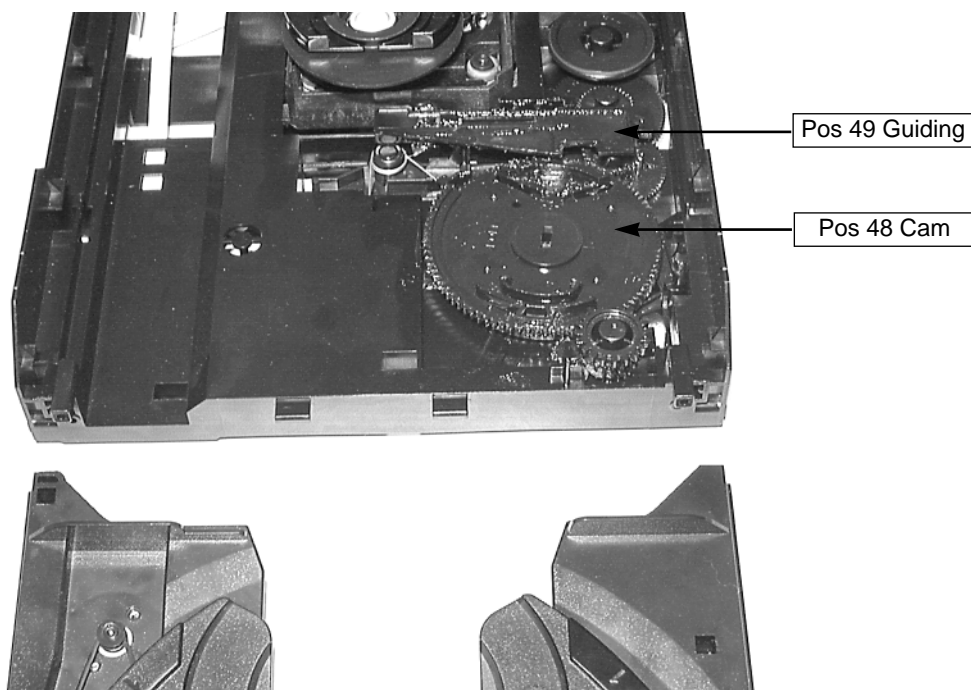
Dismantling of Tray

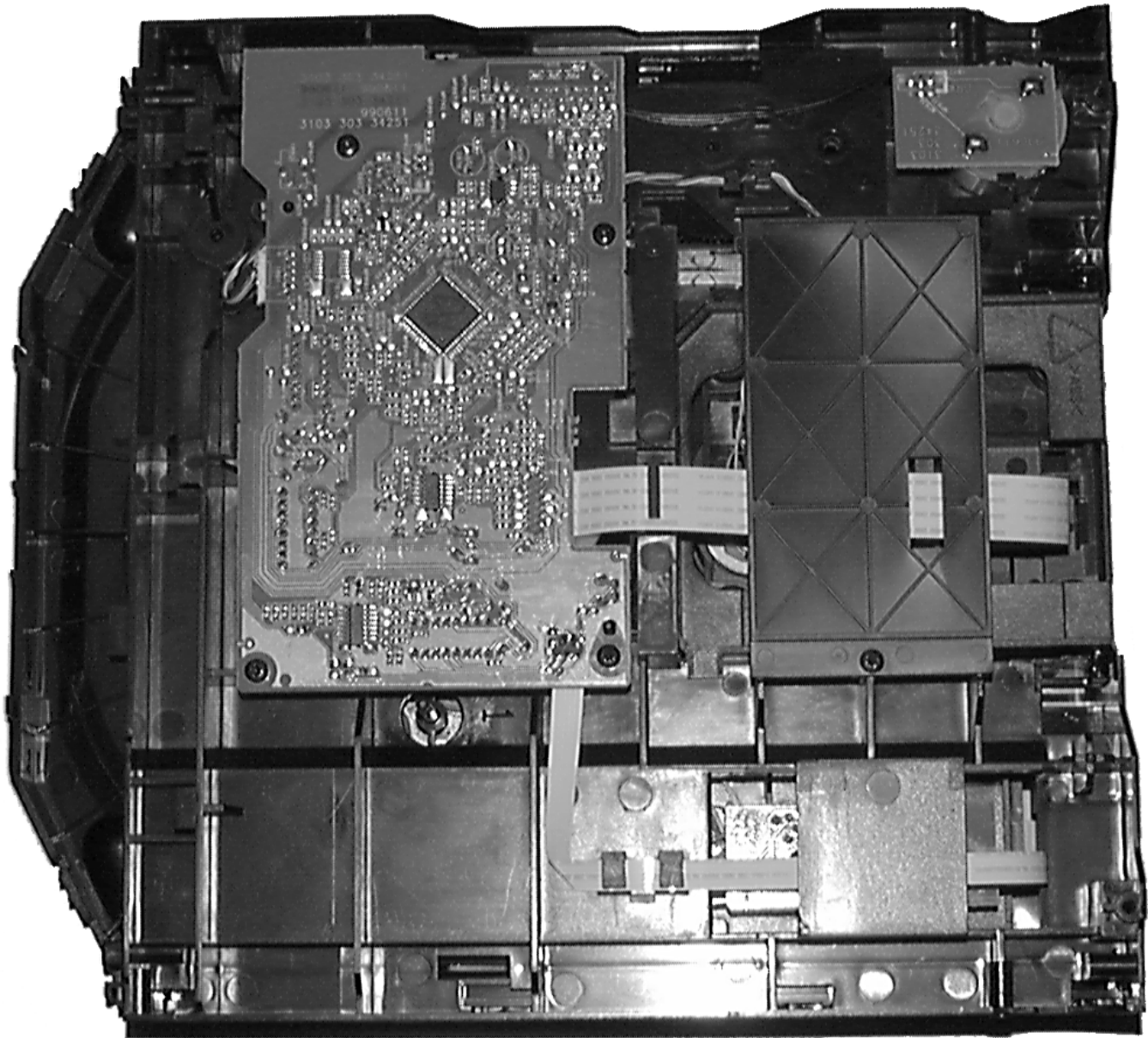
1. Open the tray.
2. Release 2x catch as shown in fig. 2 and Detail A
3. Pull tray out.



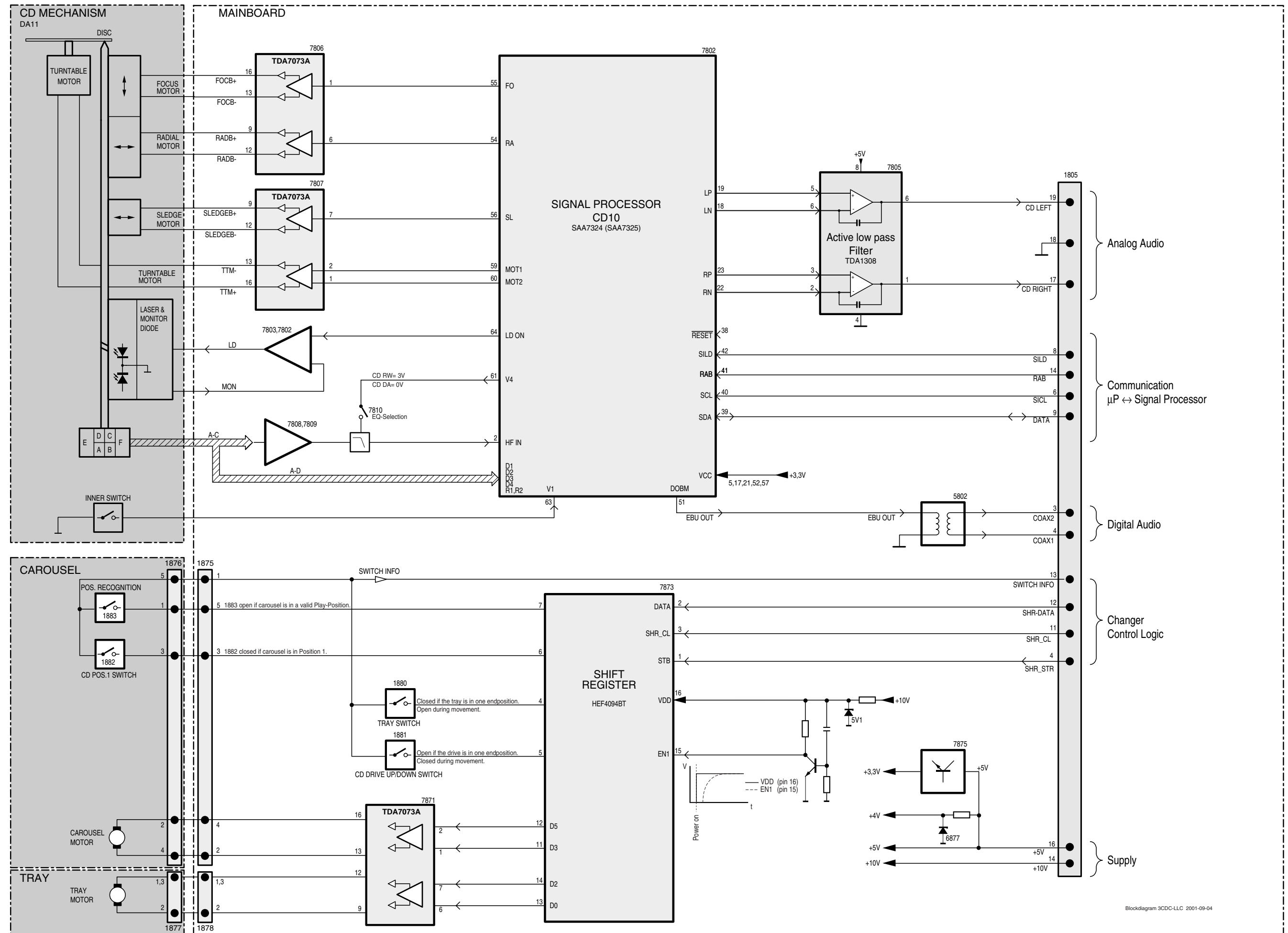
Assembling of Tray

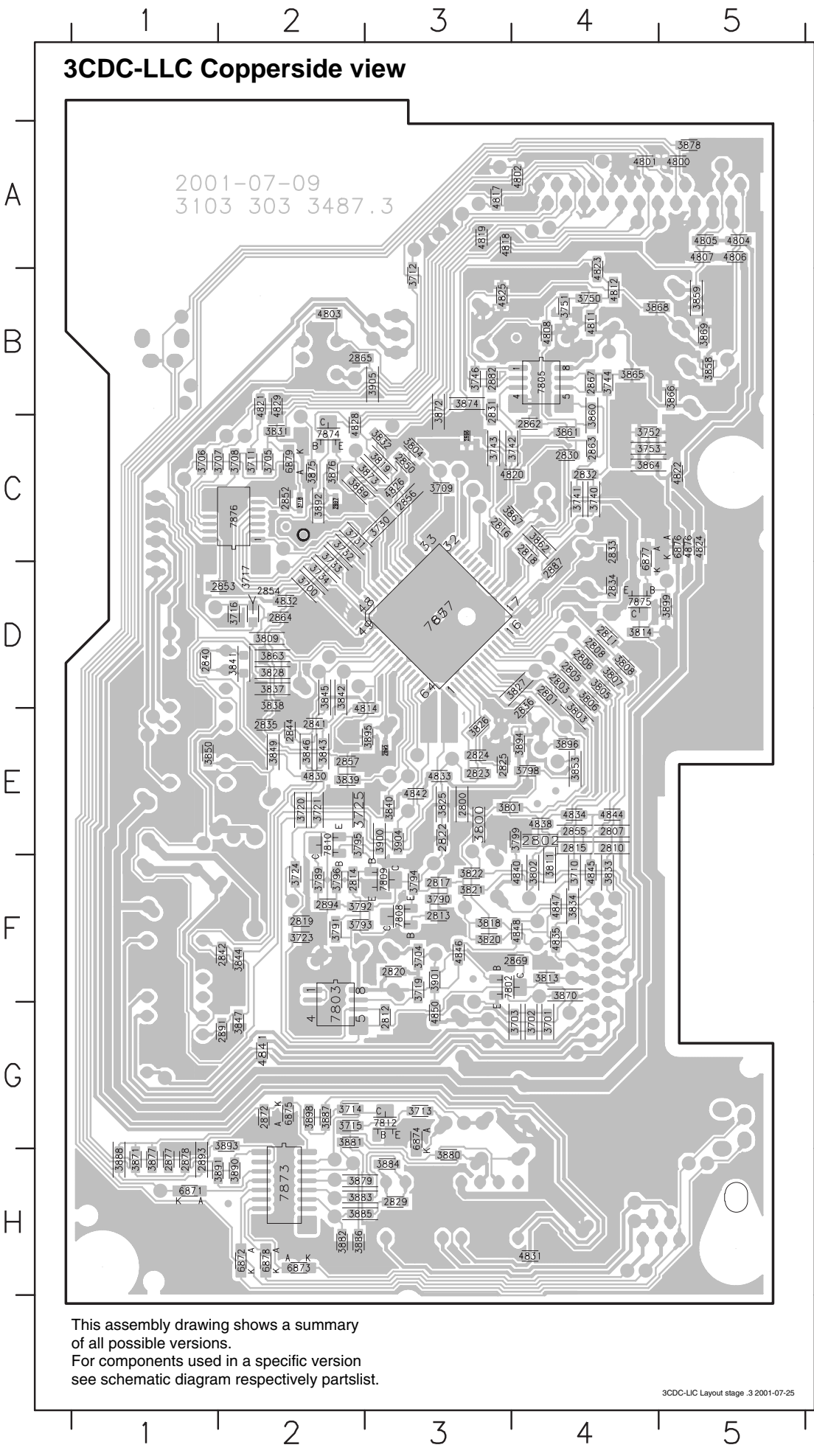
1. Turn Cam (pos. 48) clockwise to end position.
2. If necessary - move Guiding (pos. 49) to the right end position.
3. Insert the Tray.



Service Position

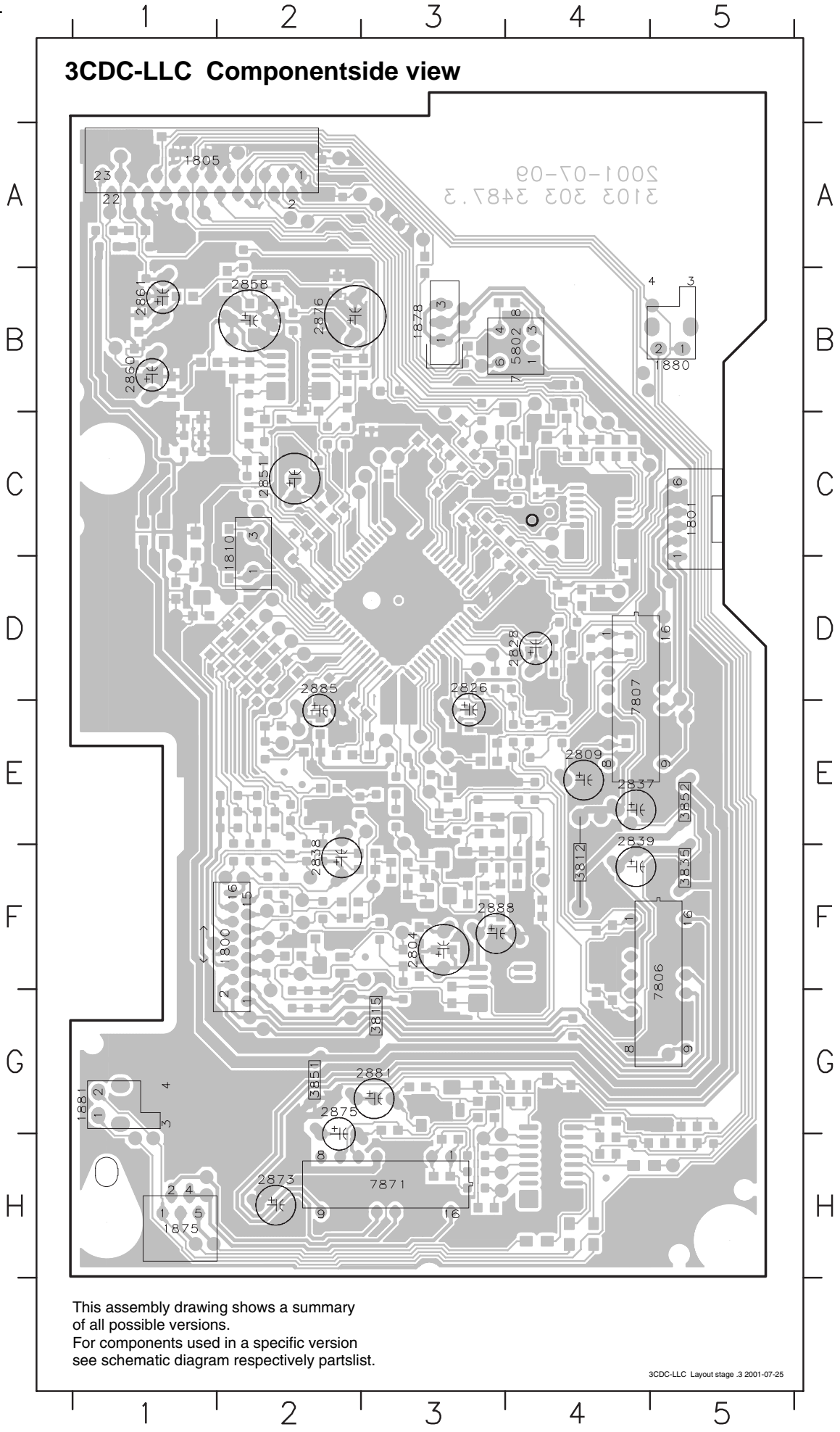
BLOCK DIAGRAM 3CDC-LLC-DA11

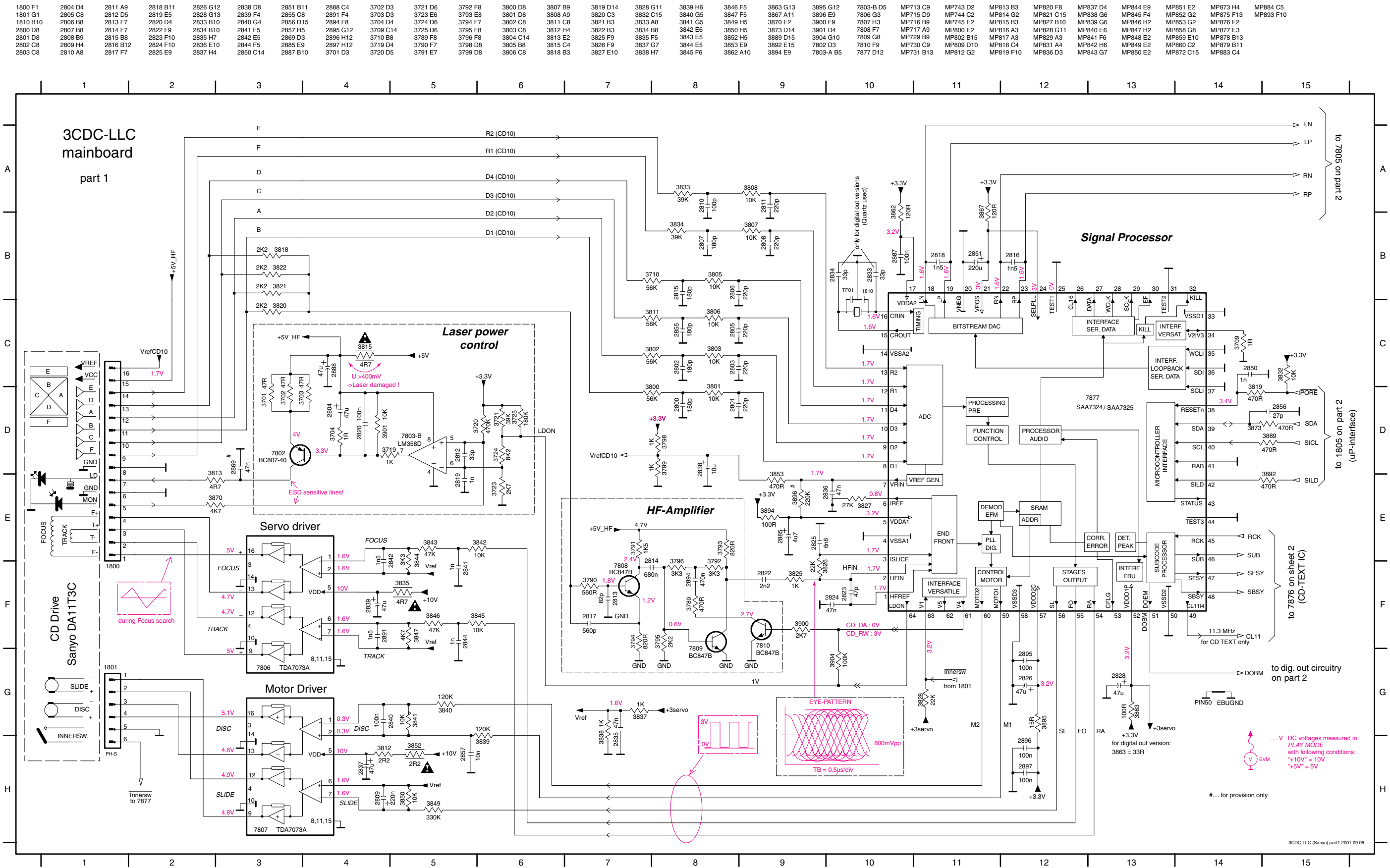


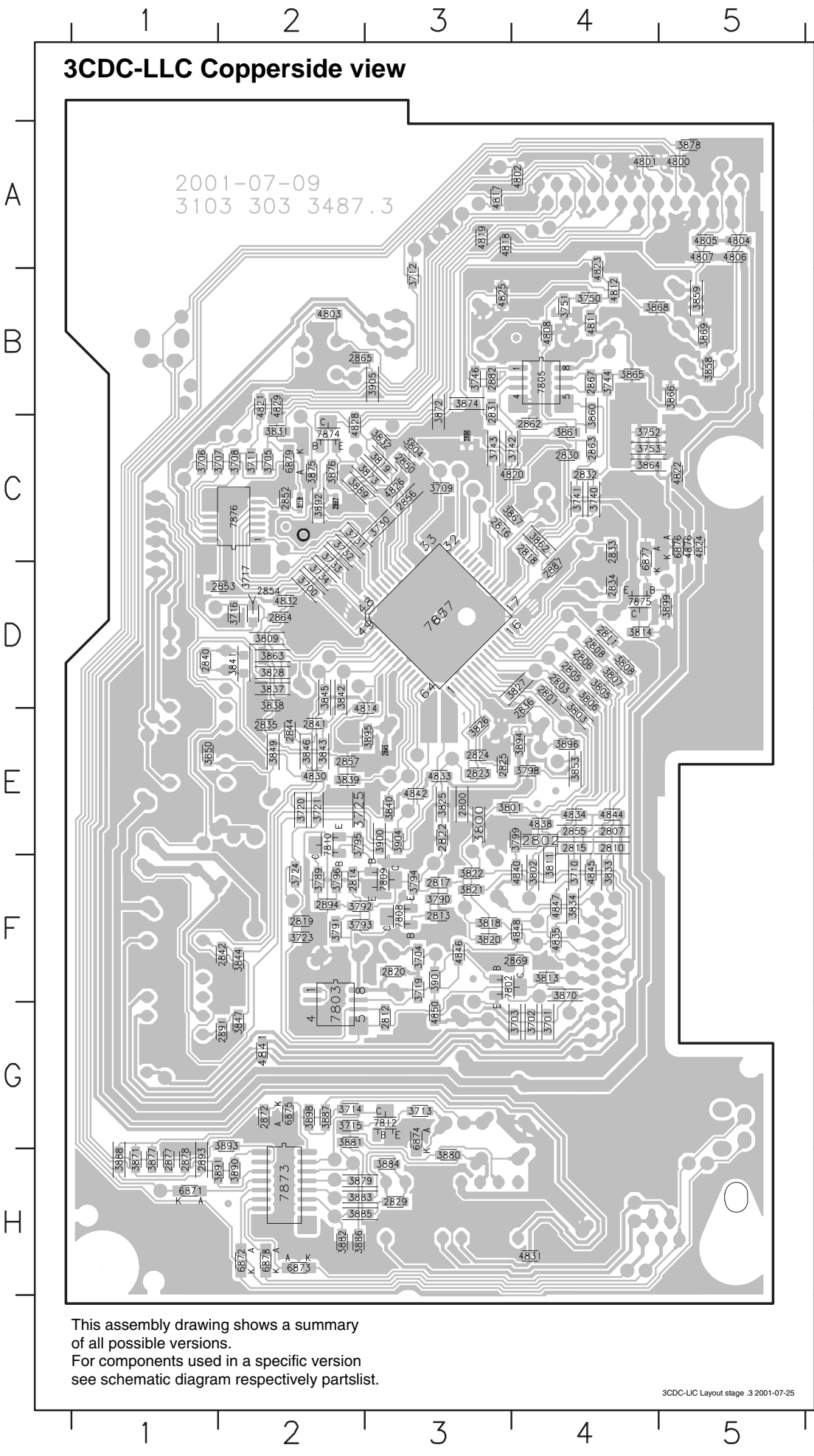


Mapping

Copperside		Componentside	
2800 E3	3741 C4	3889 C2	1800 F2
2801 D4	3742 C4	3890 H2	1801 C5
2802 E4	3743 C3	3891 H2	1805 A2
2803 D4	3744 B4	3892 C2	1810 C2
2805 D4	3746 B3	3893 G2	1875 H1
2806 D4	3750 B4	3894 E4	1878 B3
2807 E4	3751 B4	3895 E3	1880 B5
2808 D4	3752 C4	3896 E4	1881 G1
2810 E4	3753 C4	3898 G2	2804 F3
2811 D4	3789 F2	3899 D5	2809 E4
2812 G3	3790 F3	3900 E3	2826 D3
2813 F3	3791 F2	3901 F3	2828 D4
2814 F2	3792 F3	3904 E3	2837 E5
2815 E4	3793 F3	3905 B3	2838 F2
2816 C3	3794 F3	4800 A5	2839 E5
2817 F3	3795 E2	4801 A4	2851 C2
2818 C4	3796 F2	4802 A4	2858 B2
2819 F2	3798 E4	4803 B2	2860 B1
2820 F3	3799 E4	4804 A5	2861 B1
2822 E3	3800 E3	4805 A5	2873 H2
2823 E3	3801 E4	4806 A5	2875 G3
2824 E3	3802 F4	4807 A5	2876 B2
2825 E3	3803 D4	4808 B4	2881 G3
2829 H3	3804 C3	4811 B4	2885 D2
2830 C4	3805 D4	4812 B4	2888 F4
2831 B3	3806 D4	4814 D3	3812 F4
2832 C4	3807 D4	4817 A3	3815 G3
2833 C4	3808 D4	4818 A3	3835 F5
2834 D4	3809 D2	4819 A3	3851 G2
2835 E2	3811 F4	4820 C4	3852 E5
2836 D4	3813 F4	4821 B2	5802 B4
2840 D1	3814 D4	4822 C5	7806 F5
2841 E2	3818 F3	4823 A4	7807 D5
2842 F2	3819 C3	4824 C5	7871 H3
2844 E2	3820 F3	4825 B3	
2850 C3	3821 F3	4826 C3	
2852 C2	3822 F3	4828 C2	
2853 D2	3825 E3	4829 B2	
2854 D2	3826 E3	4830 E2	
2855 E4	3827 D4	4831 H4	
2856 C3	3828 D2	4832 D2	
2857 E2	3831 C2	4833 E3	
2862 C4	3832 C3	4834 E4	
2863 C4	3833 F4	4835 F4	
2864 D2	3834 F4	4838 E4	
2865 B3	3837 D2	4840 F4	
2867 B4	3838 D2	4841 G2	
2869 F4	3839 E2	4842 E3	
2872 G2	3840 E3	4844 E4	
2877 H1	3841 D2	4845 F4	
2878 H1	3842 D2	4846 F3	
2882 B3	3843 E2	4847 F4	
2887 C4	3844 F2	4848 F4	
2891 G2	3845 D2	4850 G3	
2893 H1	3846 E2	4876 C5	
2894 F2	3847 G2	6871 H1	
2895 E3	3849 E2	6872 H2	
2896 C3	3850 E1	6873 H2	
2897 C2	3853 E4	6874 G3	
3700 D2	3858 B5	6875 G2	
3701 G4	3859 B5	6876 C5	
3702 G4	3860 B4	6877 C4	
3703 G4	3861 C4	6878 H2	
3704 F3	3862 C4	6879 C2	
3705 C2	3863 D2	7802 F4	
3706 C1	3864 C4	7803 F2	
3707 C2	3865 B4	7805 B4	
3708 C2	3866 B5	7808 F3	
3709 C3	3867 C4	7809 F3	
3710 F4	3868 B5	7810 E2	
3711 C2	3869 B5	7812 G3	
3712 A3	3870 F4	7873 H2	
3713 G3	3871 H1	7874 C2	
3714 G2	3872 B3	7875 D4	
3715 G2	3873 C3	7876 C2	
3716 D2	3874 B3	7877 D3	
3717 D2	3875 C2		
3718 C2	3876 C2		
3719 F3	3877 H1		
3720 E2	3878 A5		
3721 E2	3879 H3		
3723 F2	3880 G3		
3724 F2	3881 G2		
3725 E2	3882 H2		
3730 C3	3883 H3		
3731 C2	3884 H3		
3732 C2	3885 H3		
3733 C2	3886 H2		
3734 D2	3887 G2		
3740 C4	3888 H1		

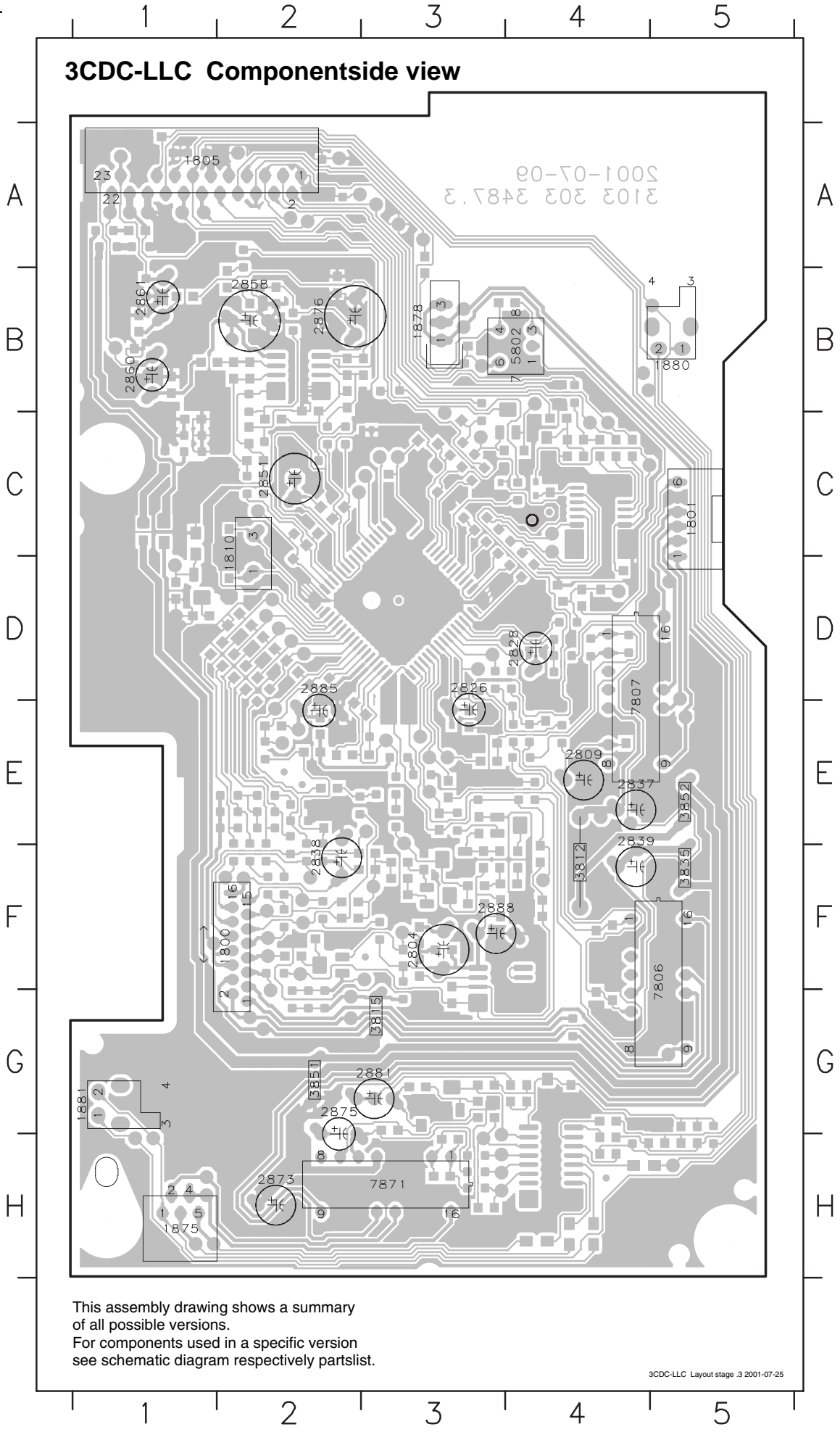


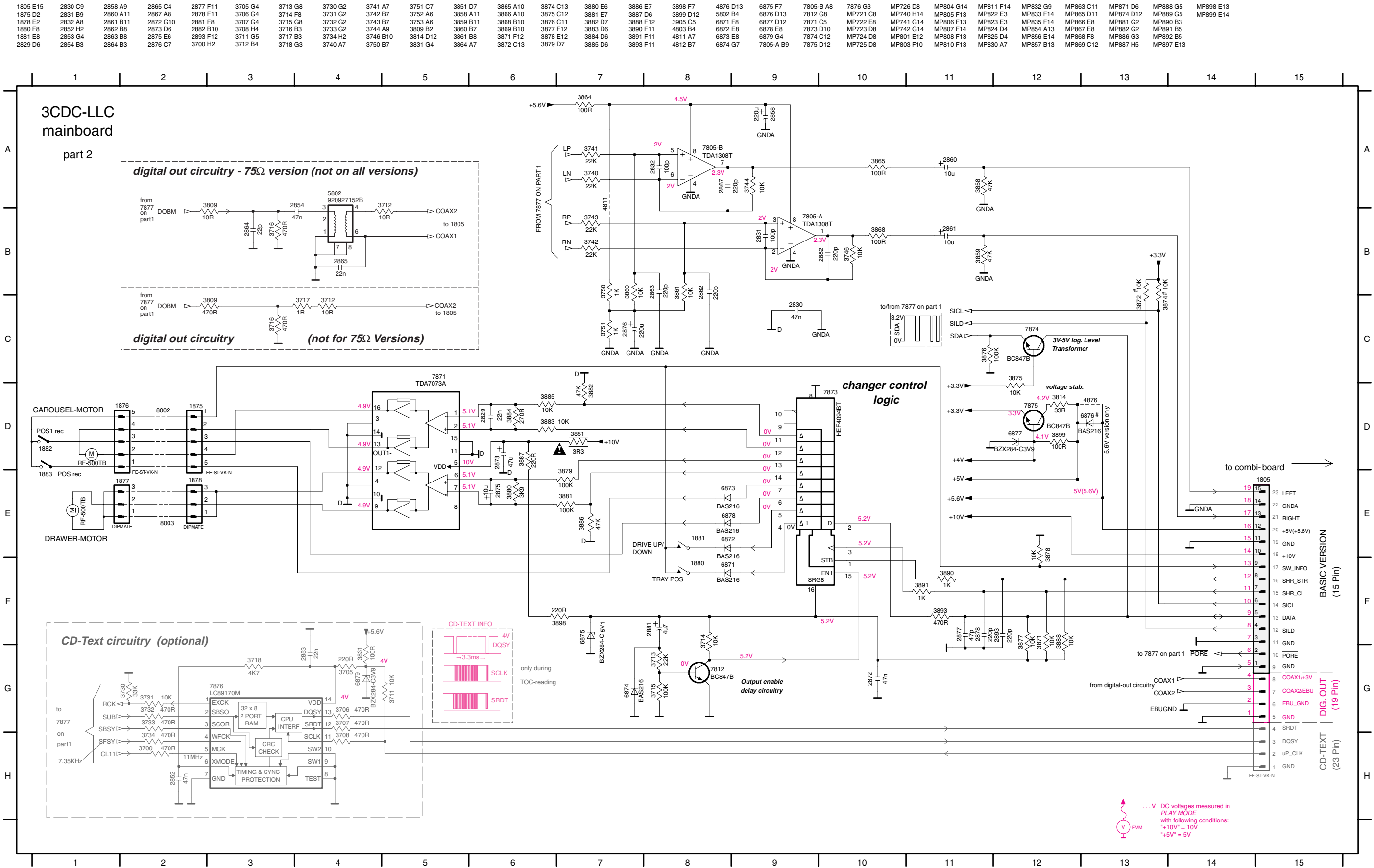




Mapping

Copperside		Componentside	
2800 E3	3741 C4	3889 C2	1800 F2
2801 D4	3742 C4	3890 H2	1801 C5
2802 E4	3743 C3	3891 H2	1805 A2
2803 D4	3744 B4	3892 C2	1810 C2
2805 D4	3746 B3	3893 G2	1875 H1
2806 D4	3750 B4	3894 E4	1878 B3
2807 E4	3751 B4	3895 E3	1880 B5
2808 D4	3752 C4	3896 E4	1881 G1
2810 E4	3753 C4	3898 G2	2804 F3
2811 D4	3789 F2	3899 D5	2809 E4
2812 G3	3790 F3	3900 E3	2826 D3
2813 F3	3791 F2	3901 F3	2828 D4
2814 F2	3792 F3	3904 E3	2837 E5
2815 E4	3793 F3	3905 B3	2838 F2
2816 C3	3794 F3	4800 A5	2839 E5
2817 F3	3795 E2	4801 A4	2851 C2
2818 C4	3796 F2	4802 A4	2858 B2
2819 F2	3798 E4	4803 B2	2860 B1
2820 F3	3799 E4	4804 A5	2861 B1
2822 E3	3800 E3	4805 A5	2873 H2
2823 E3	3801 E4	4806 A5	2875 G3
2824 E3	3802 F4	4807 A5	2876 B2
2825 E3	3803 D4	4808 B4	2881 G3
2829 H3	3804 C3	4811 B4	2885 D2
2830 C4	3805 D4	4812 B4	2888 F4
2831 B3	3806 D4	4814 D3	3812 F4
2832 C4	3807 D4	4817 A3	3815 G3
2833 C4	3808 D4	4818 A3	3835 F5
2834 D4	3809 D2	4819 A3	3851 G2
2835 E2	3811 F4	4820 C4	3852 E5
2836 D4	3813 F4	4821 B2	5802 B4
2840 D1	3814 D4	4822 C5	7806 F5
2841 E2	3818 F3	4823 A4	7807 D5
2842 F2	3819 C3	4824 C5	7871 H3
2844 E2	3820 F3	4825 B3	
2850 C3	3821 F3	4826 C3	
2852 C2	3822 F3	4828 C2	
2853 D2	3825 E3	4829 B2	
2854 D2	3826 E3	4830 E2	
2855 E4	3827 D4	4831 H4	
2856 C3	3828 D2	4832 D2	
2857 E2	3831 C2	4833 E3	
2862 C4	3832 C3	4834 E4	
2863 C4	3833 F4	4835 F4	
2864 D2	3834 F4	4838 E4	
2865 B3	3837 D2	4840 F4	
2867 B4	3838 D2	4841 G2	
2869 F4	3839 E2	4842 E3	
2872 G2	3840 E3	4844 E4	
2877 H1	3841 D2	4845 F4	
2878 H1	3842 D2	4846 F3	
2882 B3	3843 E2	4847 F4	
2887 C4	3844 F2	4848 F4	
2891 G2	3845 D2	4850 G3	
2893 H1	3846 E2	4876 C5	
2894 F2	3847 G2	6871 H1	
2895 E3	3849 E2	6872 H2	
2896 C3	3850 E1	6873 H2	
2897 C2	3853 E4	6874 G3	
3700 D2	3858 B5	6875 G2	
3701 G4	3859 B5	6876 C5	
3702 G4	3860 B4	6877 C4	
3703 G4	3861 C4	6878 H2	
3704 F3	3862 C4	6879 C2	
3705 C2	3863 D2	7802 F4	
3706 C1	3864 C4	7803 F2	
3707 C2	3865 B4	7805 B4	
3708 C2	3866 B5	7808 F3	
3709 C3	3867 C4	7809 F3	
3710 F4	3868 B5	7810 E2	
3711 C2	3869 B5	7812 G3	
3712 A3	3870 F4	7873 H2	
3713 G3	3871 H1	7874 C2	
3714 G2	3872 B3	7875 D4	
3715 G2	3873 C3	7876 C2	
3716 D2	3874 B3	7877 D3	
3717 D2	3875 C2		
3718 C2	3876 C2		
3719 F3	3877 H1		
3720 E2	3878 A5		
3721 E2	3879 H3		
3723 F2	3880 G3		
3724 F2	3881 G2		
3725 E2	3882 H2		
3730 C3	3883 H3		
3731 C2	3884 H3		
3732 C2	3885 H3		
3733 C2	3886 H2		
3734 D2	3887 G2		
3740 C4	3888 H1		

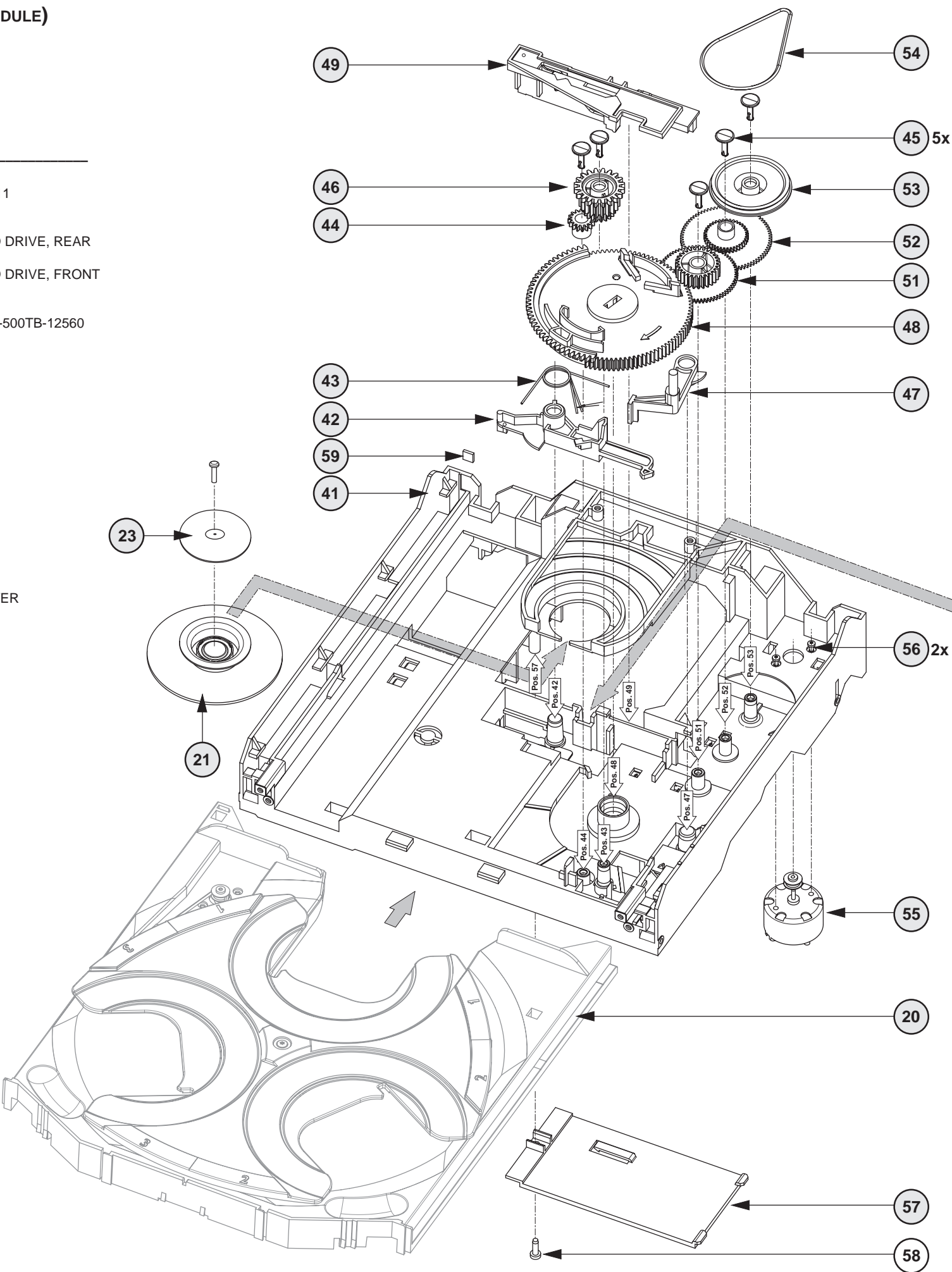




EXPLODED VIEW (3CDC-LC MODULE)

MECHANICAL PARTS *Loader* → *this page*

20	3103 304 66500	DRAWER
21	3140 114 29070	PRESSURE RING-DA11
23	3140 111 21270	METAL RING-DA11
30	3103 304 66560	SUPPORT
31	4822 529 10386	RUBBER DAMPER CD DRIVE, REAR
32	4822 529 10387	RUBBER DAMPER CD DRIVE, FRONT
33	3103 304 06970	WASHER
35	3103 309 05310	CD DRIVE DA11T3CN
36	3104 119 40010	MOTOR MABUCHI RF-500TB-12560
37	4822 361 10753	CAROUSEL MOTOR
41	3103 304 66480	FRAME
42	3103 304 66540	BRACKET-GUIDING
43	3103 301 06460	SPRING-GUIDING
44	3103 304 06890	GEAR-3
45	3103 304 06980	NAIL FIXATION
46	3103 304 06880	GEAR-2
47	3103 304 66530	BRACKET-LOAD
48	3103 304 06910	CAM
49	3103 304 66510	GUIDING
51	3103 304 06900	GEAR-4
52	3103 304 06870	GEAR-1
53	3103 304 06960	PULLEY-FRAME
54	3103 304 66910	DRIVING-BELT-DRAWER
55	4822 361 10753	TRAY MOTOR
56	4822 502 12548	SCREW M2,6X3,5
57	3103 304 69880	COVER-DA11
59	4822 466 12146	RUBBER

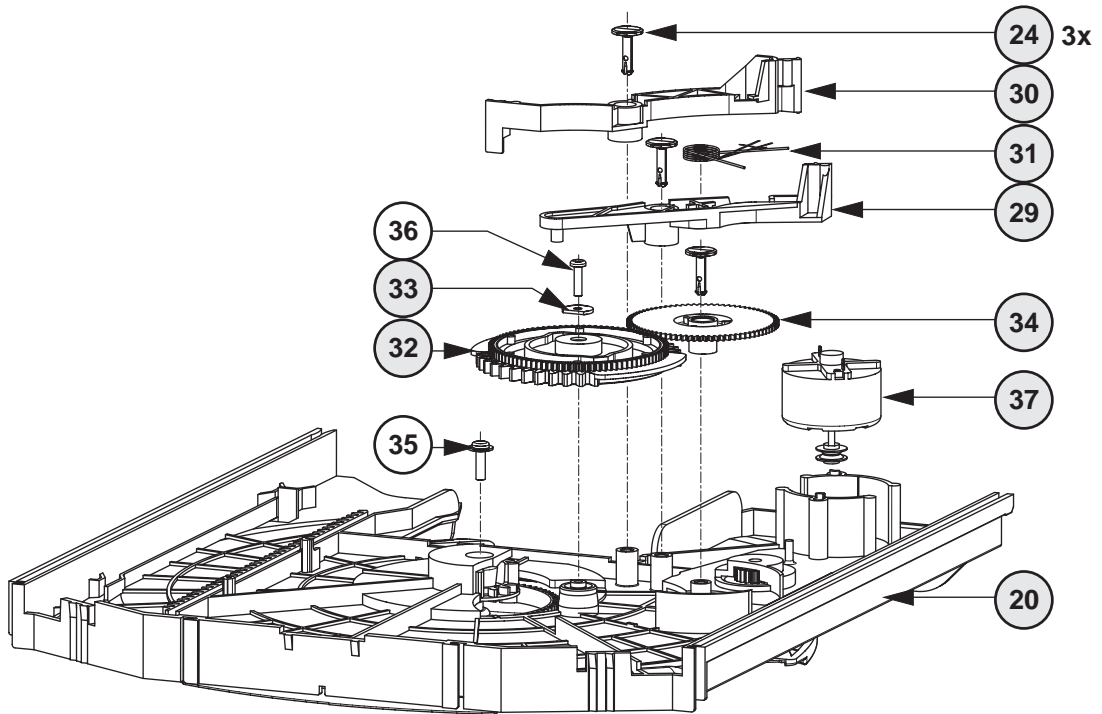


MECHANICAL PARTS *Drawer* → *Chapter 10-11*

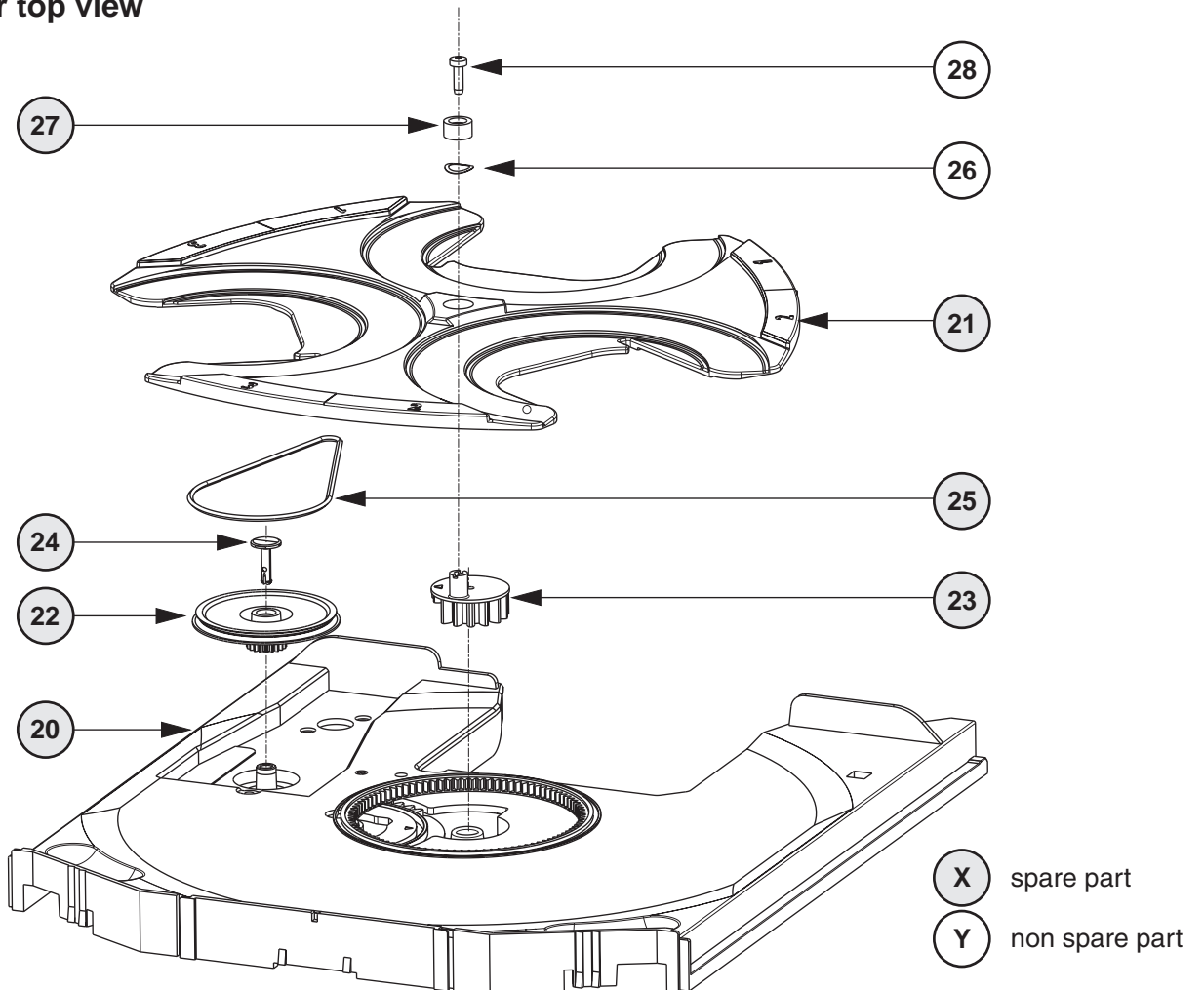
20	3103 304 66500	DRAWER
21	3103 304 66490	CAROUSEL
22	3103 304 06860	PULLEY-DRAWER
23	3103 304 06850	ECCENTRIC GEAR WHEEL
24	3103 304 06980	NAIL FIXATION
25	3103 304 66850	DRIVING BELT CAROUSEL
27	4822 532 12365	BUSH DRAWER (height=5,5mm,d=9,4mm)
27	3103 304 07100	BUSH DRAWER (height=8,5mm,d=16mm)
29	3103 304 66550	BRACKET-DISC
30	3103 304 66520	TUMBLER
31	3103 301 06470	SPRING-DISC
32	3103 304 06920	CONTROL-DISC
34	3103 304 06870	GEAR-1
37	4822 361 10753	CAROUSEL MOTOR

- X spare part
Y non spare part

Drawer bottom view



Drawer top view



ELECTRICAL PARTSLIST 3CDC-LLC-DA11 MODULE**MISCELLANEOUS**

35	3103 309 05310	CD DRIVE DA11T3CN
37	4822 361 10753	CAROUSEL MOTOR
55	4822 361 10753	TRAY MOTOR
1800	2422 025 17389	FLEX FOIL CONNECTOR 16Pin
1805	4822 265 10979	FLEX FOIL CONNECTOR 15Pin
1805	4822 265 11545	FLEX FOIL CONNECTOR 19Pin
1875	4822 267 10958	FLEX FOIL CONNECTOR 5Pin
1876	2422 025 08332	FLEX FOIL CONNECTOR 5Pin
1880	4822 276 13503	SWITCH, Tray switch
1881	4822 276 13503	SWITCH, Drive UP/DOWN
1882	4822 276 13503	SWITCH, CD Pos.1 recognized
1883	4822 276 13503	SWITCH, valid CD Play position
8002	3103 308 91990	FLEX FOIL CABLE 5P 200mm 1:n
8005	3103 308 92930	FLEX FOIL CABLE 16P 170mm 1:n

CAPACITORS

2800©	4822 126 10326	180pF	5%	50V
2801©	4822 126 13883	220pF	5%	50V
2802©	4822 126 10326	180pF	5%	50V
2803©	4822 126 13883	220pF	5%	50V
2804	4822 124 41751	47µF	20%	16V
2805©	4822 126 13883	220pF	5%	50V
2806©	4822 126 13883	220pF	5%	50V
2807©	4822 126 10326	180pF	5%	50V
2808©	4822 126 13883	220pF	5%	50V
2809	4822 124 40746	0,22µF	20%	63V
2810©	5322 122 32531	100pF	5%	50V
2811©	4822 126 13883	220pF	5%	50V
2812©	2222 867 15339	33pF	5%	50V
2813©	4822 126 14226	82pF	5%	50V
2814©	2238 780 59861	680nF	10%	16V
2815©	4822 126 10326	180pF	5%	50V
2816©	4822 126 14247	1,5nF	10%	50V
2817©	4822 126 14249	560pF	10%	50V
2818©	4822 126 13344	1,5nF	5%	63V
2819©	5322 126 11578	1nF	10%	63V
2820©	4822 126 14305	100nF	10%	16V
2822©	4822 122 33127	2,2nF	10%	63V
2823©	4822 122 33777	47pF	5%	63V
2824©	4822 126 13751	47nF	10%	50V
2825©	5322 126 11582	6,8nF	10%	63V
2826	4822 124 12362	47µF	20%	4V
2828	4822 124 12362	47µF	20%	4V
2829©	3198 017 42230	22nF	10%	50V
2830©	4822 126 13751	47nF	10%	50V
2831©	4822 122 31765	100pF	5%	50V
2832©	4822 122 31765	100pF	5%	50V
2835©	3198 024 44730	47nF	5%	50V
2836©	3198 024 44730	47nF	5%	50V
2837	4822 124 40433	47µF	20%	25V
2838	4822 124 40248	10µF	20%	63V
2839	4822 124 40433	47µF	20%	25V
2840©	4822 126 14585	100nF	10%	50V
2841©	5322 126 10511	1nF	5%	50V
2842©	4822 126 14247	1,5nF	10%	50V
2844©	3198 016 31020	1nF	5%	25V
2850©	5322 126 11578	1nF	10%	63V
2851	4822 124 42383	220µF	20%	4V
2855©	4822 126 10326	180pF	5%	63V
2856©	4822 126 13691	27pF	1%	63V
2857©	5322 126 11583	10nF	10%	63V
2858	4822 124 12245	220µF	20%	16V
2860	4822 124 11947	10µF	20%	16V

CAPACITORS

2861	4822 124 11947	10µF	20%	16V
2862©	4822 126 13883	220pF	5%	50V
2863©	4822 126 13883	220pF	5%	50V
2865©	4822 126 14494	22nF	10%	25V
2867©	4822 126 13883	220pF	5%	50V
2872©	3198 024 44730	47nF	5%	50V
2873	4822 124 80231	47µF	20%	16V
2875	4822 124 11947	10µF	20%	16V
2876	4822 124 12245	220µF	20%	16V
2877©	4822 122 33777	47pF	5%	63V
2878©	4822 126 13883	220pF	5%	50V
2881	4822 124 40769	4,7µF	20%	100V
2882©	4822 126 13883	220pF	5%	50V
2885	4822 124 40769	4,7µF	20%	100V
2887©	4822 126 14585	100nF	10%	50V
2888	4822 124 80231	47µF	20%	16V
2891©	4822 126 14247	1,5nF	10%	50V
2893©	4822 122 33575	220pF	5%	50V
2894©	3198 017 44740	470nF	20%	10V
2895©	4822 126 14305	100nF	10%	16V
2896©	4822 126 14305	100nF	10%	16V
2897©	4822 126 14305	100nF	10%	16V
RESISTORS				
3701©	4822 051 20479	47Ω	5%	0,1W
3702©	4822 051 20479	47Ω	5%	0,1W
3703©	4822 051 20479	47Ω	5%	0,1W
3704©	4822 117 12917	1Ω	5%	0,06W
3710©	4822 117 11148	56kΩ	1%	0,1W
3712©	4822 051 30109	10Ω	5%	0,06W
3713©	4822 051 30223	22kΩ	5%	0,06W
3714©	4822 051 30103	10kΩ	5%	0,06W
3715©	4822 117 13632	100kΩ	1%	0,06W
3716©	4822 051 30471	470Ω	5%	0,06W
3717©	4822 117 12917	1Ω	5%	0,06W
3719©	4822 051 30102	1kΩ	5%	0,06W
3720©	4822 051 20474	470kΩ	5%	0,1W
3721©	4822 051 20393	39kΩ	5%	0,1W
3723©	4822 051 30272	2,7kΩ	5%	0,06W
3724©	4822 117 12902	8,2kΩ	1%	0,06W
3725©	4822 051 30184	180kΩ	5%	0,06W
3730©	4822 051 20333	33kΩ	5%	0,1W
3740©	4822 051 20223	22kΩ	5%	0,1W
3741©	4822 051 20223	22kΩ	5%	0,1W
3742©	4822 051 20223	22kΩ	5%	0,1W
3743©	4822 051 20223	22kΩ	5%	0,1W
3744©	4822 051 30103	10kΩ	5%	0,06W
3746©	4822 051 30103	10kΩ	5%	0,06W
3750©	4822 051 30102	1kΩ	5%	0,06W
3751©	4822 051 30102	1kΩ	5%	0,06W
3789©	4822 051 30471	470Ω	5%	0,06W
3790©	4822 051 30561	560Ω	5%	0,06W
3791©	4822 051 30152	1,5kΩ	5%	0,06W
3792©	4822 051 30332	3,3kΩ	5%	0,06W
3793©	4822 117 12968	820Ω	5%	0,06W
3794©	4822 117 12968	820Ω	5%	0,06W
3795©	4822 051 30222	2,2kΩ	5%	0,06W
3796©	4822 051 30332	3,3kΩ	5%	0,06W
3798©	4822 051 30102	1kΩ	5%	0,06W
3799©	4822 051 30102	1kΩ	5%	0,06W
3800©	4822 117 11148	56kΩ	1%	0,1W
3801©	4822 051 30103	10kΩ	5%	0,06W
3802©	4822 117 11148	56kΩ	1%	0,1W

ELECTRICAL PARTSLIST 3CDC-LLC-DA11 MODULE**RESISTORS**

3803©	4822 117 10833	10kΩ	1%	0,1W
3804©	4822 051 30103	10kΩ	5%	0,06W
3805©	4822 051 30103	10kΩ	5%	0,06W
3806©	4822 051 30103	10kΩ	5%	0,06W
3807©	4822 051 30103	10kΩ	5%	0,06W
3808©	4822 051 30103	10kΩ	5%	0,06W
3809©	4822 051 20471	470Ω	5%	0,1W
3811©	4822 117 11148	56kΩ	1%	0,1W
3812	4822 053 10228	2,2Ω	5%	1W
3813©	4822 117 13608	4,7Ω	5%	0,06W
3814©	4822 051 30339	33Ω	5%	0,06W
3815	4822 052 10478	4,7Ω	5%	NFR
3818©	4822 051 30222	2,2kΩ	5%	0,06W
3819©	4822 051 20471	470Ω	5%	0,1W
3820©	4822 051 30222	2,2kΩ	5%	0,06W
3821©	4822 051 30222	2,2kΩ	5%	0,06W
3822©	4822 051 30222	2,2kΩ	5%	0,06W
3825©	4822 051 10102	1kΩ	2%	0,25W
3826©	4822 051 30223	22kΩ	5%	0,06W
3827©	4822 051 20273	27kΩ	5%	0,1W
3828©	4822 051 20223	22kΩ	5%	0,1W
3831©	4822 051 30101	100Ω	5%	0,06W
3832©	4822 051 30103	10kΩ	5%	0,06W
3833©	4822 051 20393	39kΩ	5%	0,1W
3834©	4822 051 20393	39kΩ	5%	0,1W
3835	4822 052 10478	4,7Ω	5%	NFR
3837©	4822 051 10102	1kΩ	2%	0,25W
3838©	4822 051 30102	1kΩ	5%	0,06W
3839©	4822 051 20124	120kΩ	5%	0,1W
3840©	4822 051 30124	120kΩ	5%	0,06W
3841©	4822 117 10833	10kΩ	1%	0,1W
3842©	4822 117 10833	10kΩ	1%	0,1W
3843©	4822 117 10834	47kΩ	1%	0,1W
3844©	4822 051 30332	3,3kΩ	5%	0,06W
3845©	4822 117 10833	10kΩ	1%	0,1W
3846©	4822 117 10834	47kΩ	1%	0,1W
3847©	4822 051 30472	4,7kΩ	5%	0,06W
3849©	4822 051 20334	330kΩ	5%	0,1W
3850©	4822 051 30103	10kΩ	5%	0,06W
3851	4822 052 10338	3,3Ω		NFR25
3852	4822 052 10228	2,2Ω	5%	0,33W
3853©	4822 051 20471	470Ω	5%	0,1W
3858©	4822 117 12925	47kΩ	1%	0,06W
3859©	4822 117 10834	47kΩ	1%	0,1W
3860©	4822 117 10833	10kΩ	1%	0,1W
3861©	4822 051 30103	10kΩ	5%	0,06W
3862©	4822 051 20121	120Ω	5%	0,1W
3863©	4822 117 11373	100Ω	1%	0,1W
3864©	4822 117 11373	100Ω	1%	0,1W
3865©	4822 051 30101	100Ω	5%	0,06W
3867©	4822 051 30121	120Ω	5%	0,06W
3868©	4822 051 30101	100Ω	5%	0,06W
3870©	4822 051 20472	4,7kΩ	5%	0,1W
3871©	4822 051 30103	10kΩ	5%	0,06W
3873©	4822 051 20471	470Ω	5%	0,1W
3875©	4822 051 30103	10kΩ	5%	0,06W
3876©	4822 117 13632	100kΩ	1%	0,06W
3877©	4822 051 30103	10kΩ	5%	0,06W
3878©	4822 051 30103	10kΩ	5%	0,06W
3879©	4822 117 10837	100kΩ	1%	0,1W
3880©	4822 051 30392	3,9kΩ	5%	0,06W
3881©	4822 117 13632	100kΩ	1%	0,06W
3882©	4822 117 12925	47kΩ	1%	0,06W

RESISTORS

3883	4822 117 10833	10kΩ	1%	0,1W
3884	4822 051 30271	270Ω	5%	0,06W
3885	4822 117 10833	10kΩ	1%	0,1W
3886	4822 117 12925	47kΩ	1%	0,06W
3887	4822 051 30221	220Ω	5%	0,06W
3888	4822 117 10833	10kΩ	1%	0,1W
3889	4822 051 20471	470Ω	5%	0,1W
3890	4822 051 30102	1kΩ	5%	0,06W
3891	4822 051 30102	1kΩ	5%	0,06W
3892	4822 051 20471	470Ω	5%	0,1W
3893	4822 051 30471	470Ω	5%	0,06W
3894	4822 051 30101	100Ω	5%	0,06W
3895	4822 117 12971	15Ω	5%	0,06W
3898	4822 051 30221	220Ω	5%	0,06W
3899	4822 051 30101	100Ω	5%	0,06W
3900	4822 117 12955	2,7kΩ	1%	0,1W
3901	4822 117 10833	10kΩ	1%	0,1W
3904	4822 117 13632	100kΩ	1%	0,06W
4800	4822 051 20008	CHIP JUMPER 0805		
4801	4822 051 20008	CHIP JUMPER 0805		
4802	4822 051 20008	CHIP JUMPER 0805		
4803	4822 051 30008	CHIP JUMPER 0603		
4804	4822 051 20008	CHIP JUMPER 0805		
4805	4822 051 30008	CHIP JUMPER 0603		
4806	4822 051 20008	CHIP JUMPER 0805		
4807	4822 051 20008	CHIP JUMPER 0805		
4808	4822 051 20008	CHIP JUMPER 0805		
4811	4822 051 20008	CHIP JUMPER 0805		
4814	4822 051 20008	CHIP JUMPER 0805		
4817	4822 051 20008	CHIP JUMPER 0805		
4818	4822 051 20008	CHIP JUMPER 0805		
4819	4822 051 20008	CHIP JUMPER 0805		
4820	4822 051 20008	CHIP JUMPER 0805		
4821	4822 051 20008	CHIP JUMPER 0805		
4822	4822 051 20008	CHIP JUMPER 0805		
4823	4822 051 20008	CHIP JUMPER 0805		
4824	4822 051 30008	CHIP JUMPER 0603		
4825	4822 051 30008	CHIP JUMPER 0603		
4826	4822 051 20008	CHIP JUMPER 0805		
4828	4822 051 20008	CHIP JUMPER 0805		
4829	4822 051 20008	CHIP JUMPER 0805		
4830	4822 051 20008	CHIP JUMPER 0805		
4831	4822 051 20008	CHIP JUMPER 0805		
4832	4822 051 30008	CHIP JUMPER 0603		
4833	4822 051 20008	CHIP JUMPER 0805		
4834	4822 051 20008	CHIP JUMPER 0805		
4835	4822 051 20008	CHIP JUMPER 0805		
4838	4822 051 30008	CHIP JUMPER 0603		
4840	4822 051 20008	CHIP JUMPER 0805		
4841	4822 051 30008	CHIP JUMPER 0603		
4842	4822 051 20008	CHIP JUMPER 0805		
4844	4822 051 20008	CHIP JUMPER 0805		
4845	4822 051 20008	CHIP JUMPER 0805		
4846	4822 051 20008	CHIP JUMPER 0805		
4847	4822 051 20008	CHIP JUMPER 0805		
4848	4822 051 20008	CHIP JUMPER 0805		
4850	4822 051 20008	CHIP JUMPER 0805		
4876	4822 051 20008	CHIP JUMPER 0805		

ELECTRICAL PARTSLIST 3CDC-LLC-DA11 MODULE

COILS

1810	4822 242 73557	CERAMIC RES. 8,46MHz
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DIODES

6871©	4822 130 11397	BAS316
6872©	4822 130 11397	BAS316
6873©	4822 130 11397	BAS316
6874©	4822 130 11397	BAS316
6875©	9340 548 52115	BZX284-C5V1
6877©	9322 129 34685	BZX284-C3V9
6878©	4822 130 11397	BAS316
6879©	9322 129 34685	BZX284-C3V9

TRANSISTORS

7802©	5322 130 60123	BC807-40
7808©	4822 130 60511	BC847B
7809©	4822 130 60511	BC847B
7810©	4822 130 60511	BC847B
7812©	4822 130 60511	BC847B
7874©	4822 130 60511	BC847B
7875©	4822 130 60511	BC847B

INTEGRATED CIRCUITS

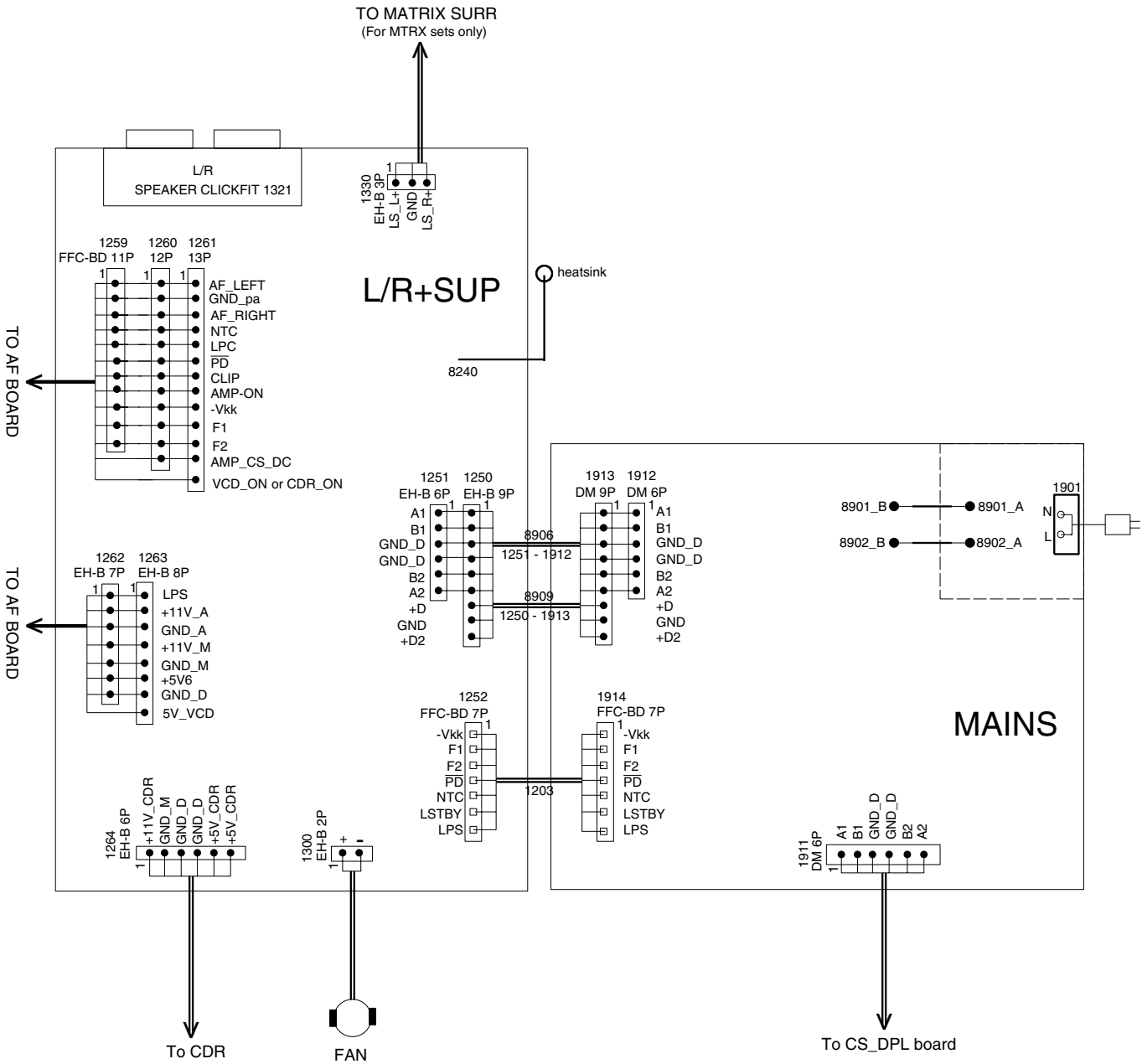
7803©	5322 209 82941	LM358D, Dual Opamp
7805©	4822 209 33165	TDA1308T/N1
7806	4822 209 32852	TDA7073A/N2
7807	4822 209 32852	TDA7073A/N2
7871	4822 209 32852	TDA7073A/N2
7873©	5322 209 11306	HEF4094BT, SHIFT REGISTER
7877©	9352 641 80557	SAA7324H/M2B, "CD10" SIGN.PROC.

WIRING DIAGRAM

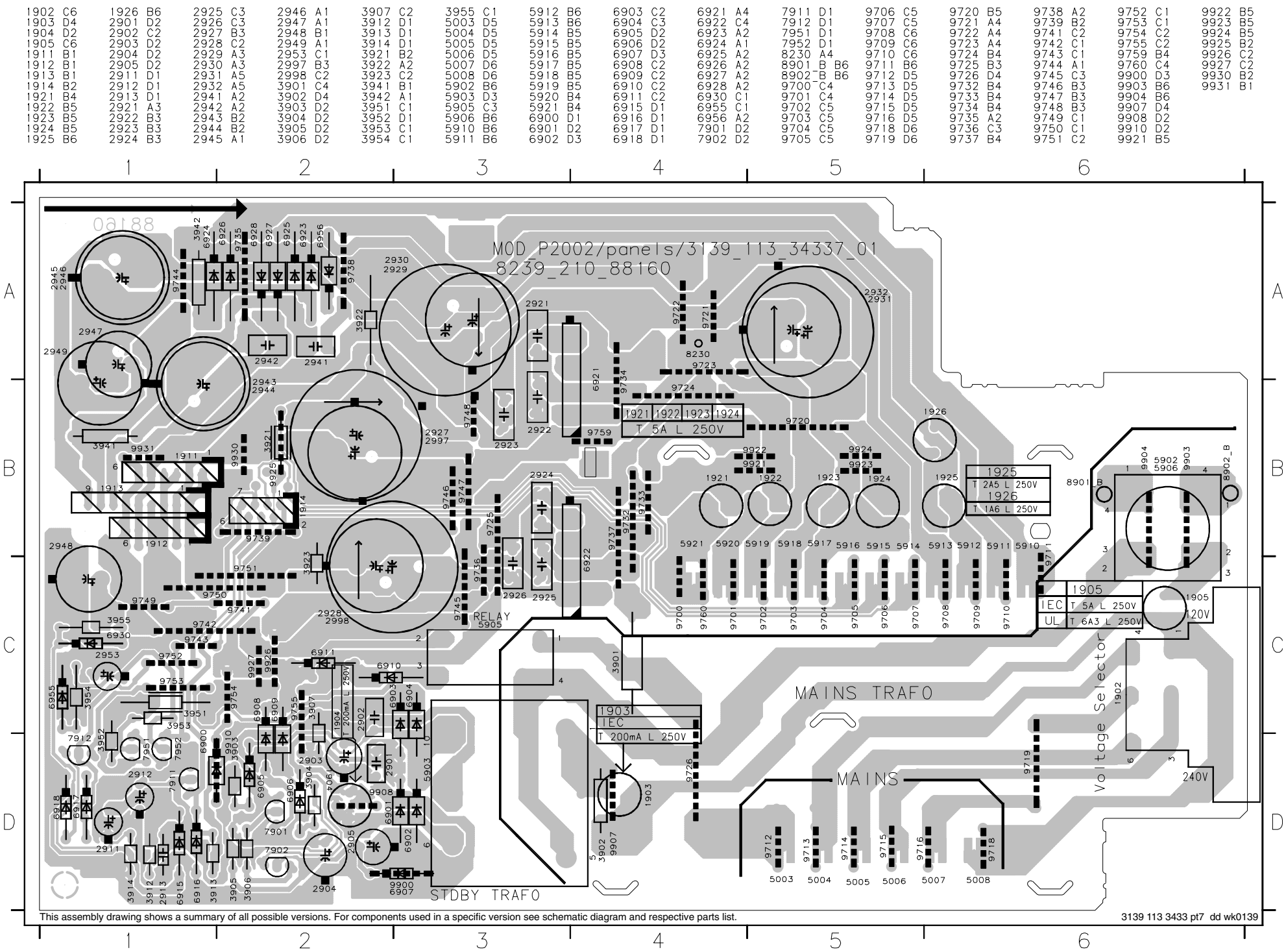
P2002 110/135W MODULE

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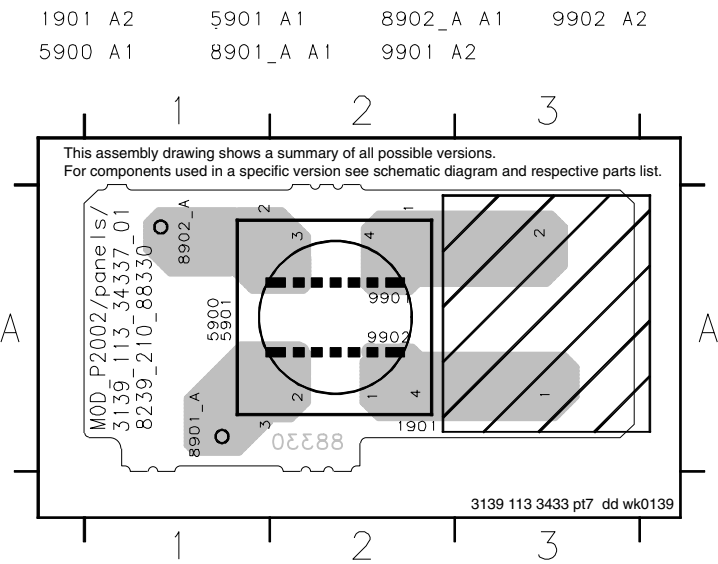
Wiring diagram.....	11-1
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Mains Socket - Layout and Circuit diagram	11-2
Mains Board - Circuit diagram	11-3
L/R Amp. & Supply Board - Component layout	11-4
L/R Amp. & Supply Board - Circuit diagram (Part 1)	11-5
L/R Amp. & Supply Board - Circuit diagram (Part 2)	11-6
L/R Amp. & Supply Board - Circuit diagram (Part 3)	11-7
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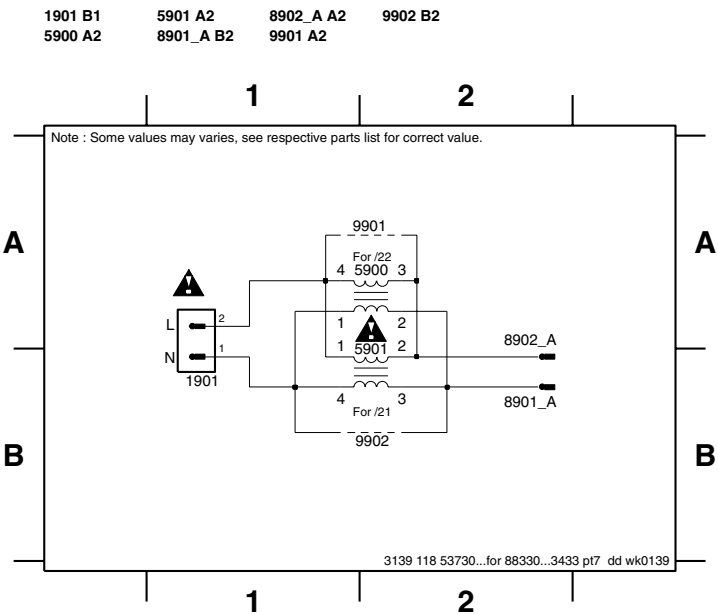
MAINS BOARD - COMPONENT VIEW



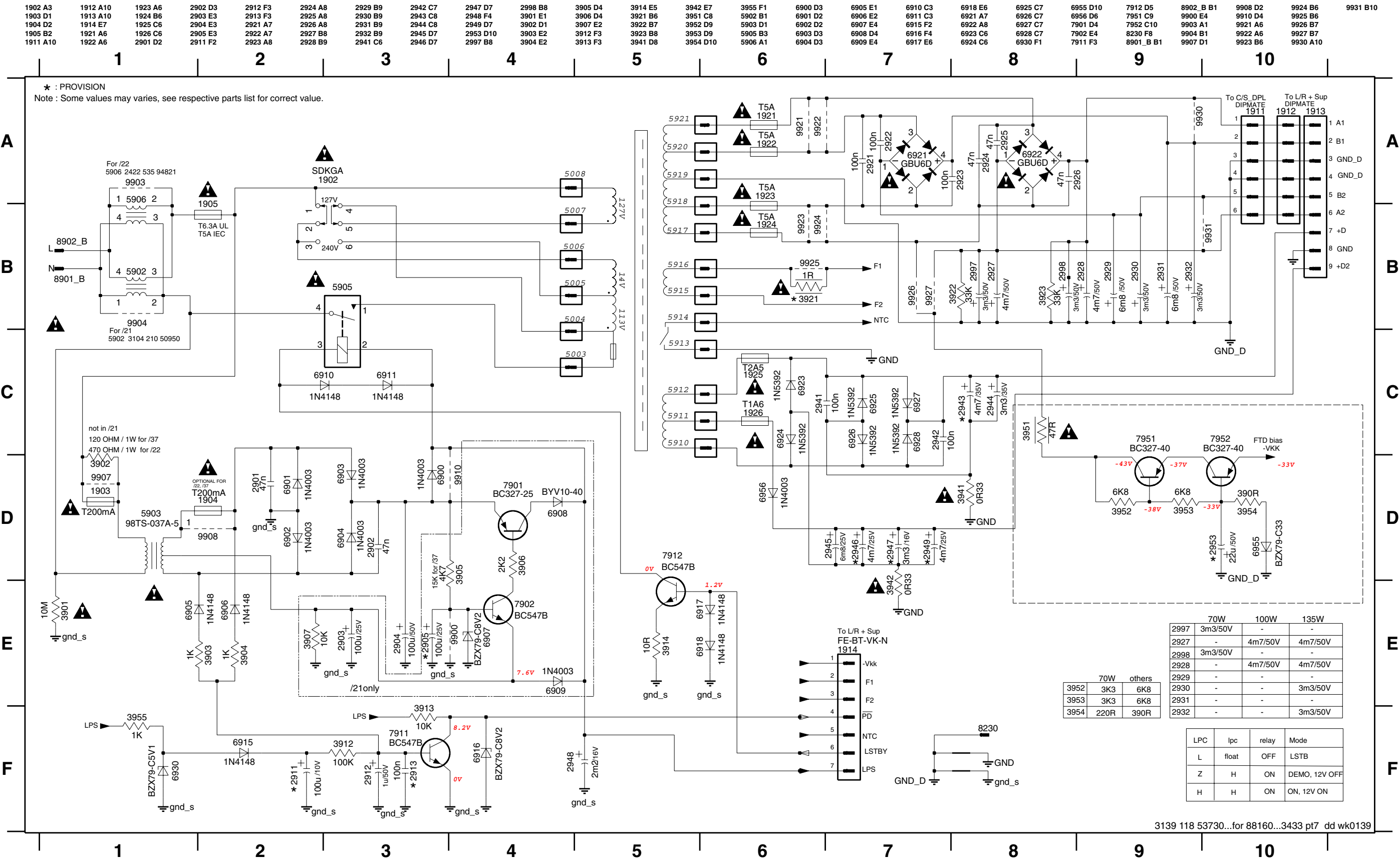
MAINS SOCKET - COMPONENT VIEW



MAINS SOCKET - CIRCUIT DIAGRAM

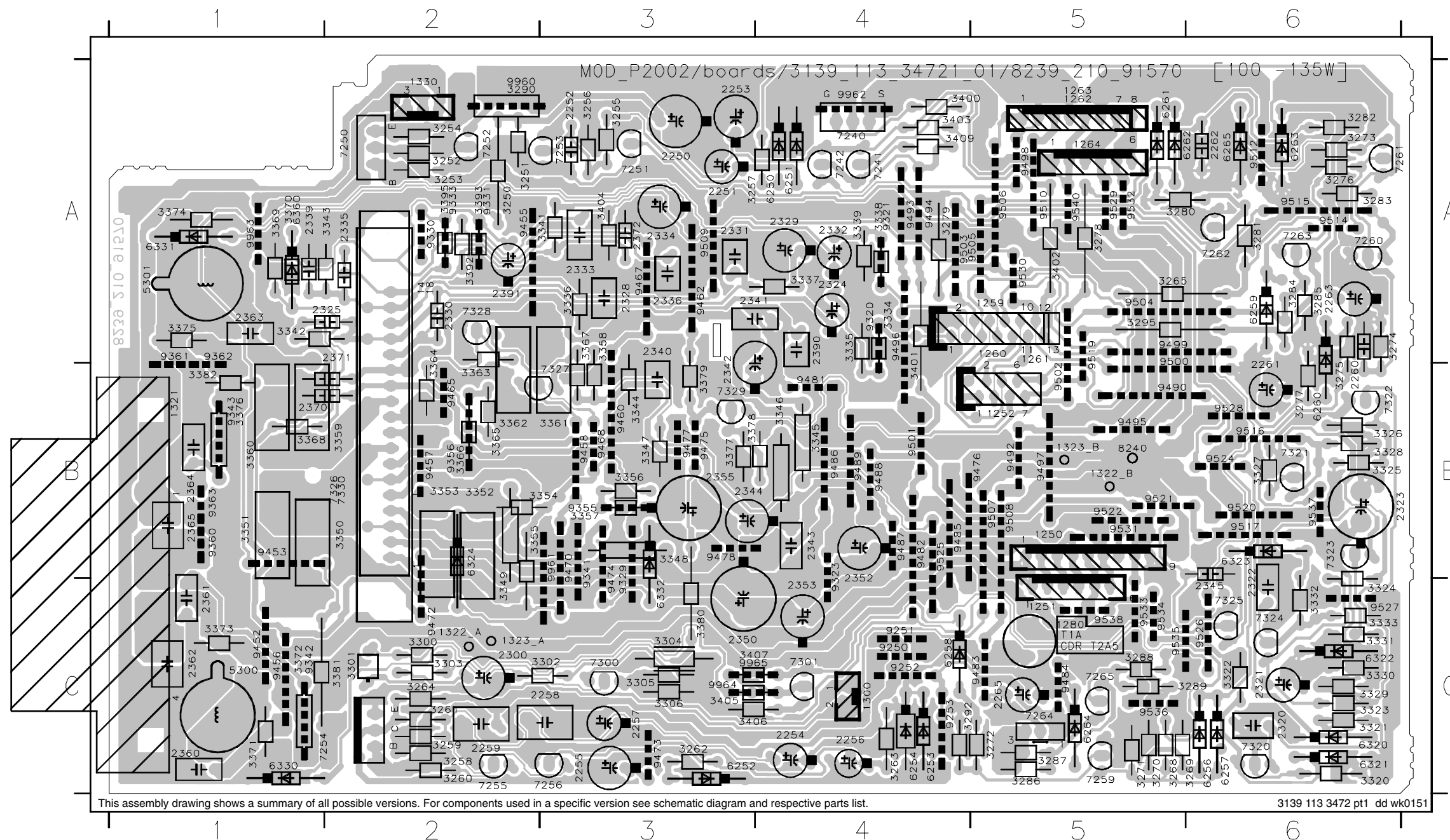


MAINS BOARD - CIRCUIT DIAGRAM

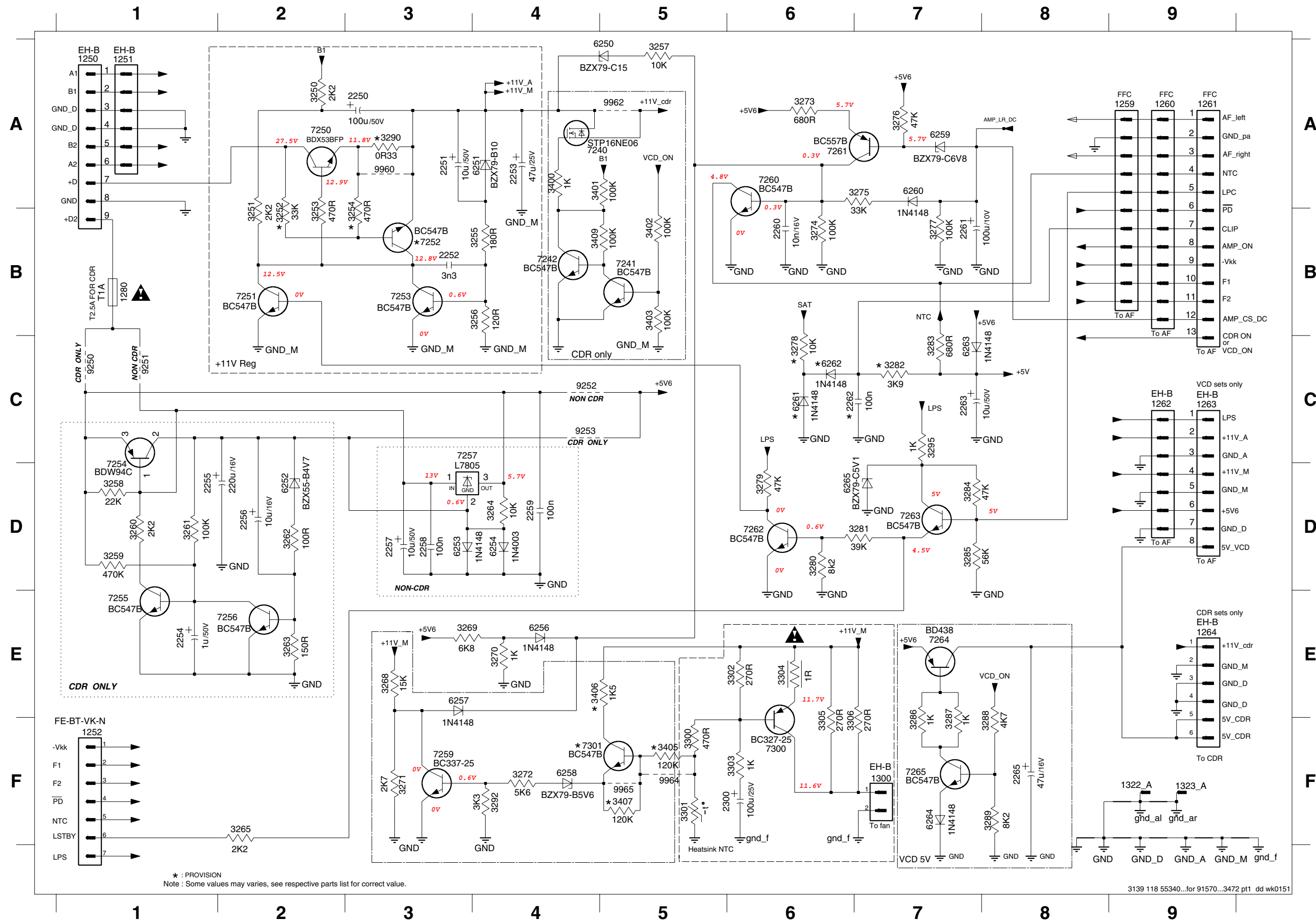


LEFT/RIGHT AMPLIFIER & SUPPLY BOARD - COMPONENT VIEW

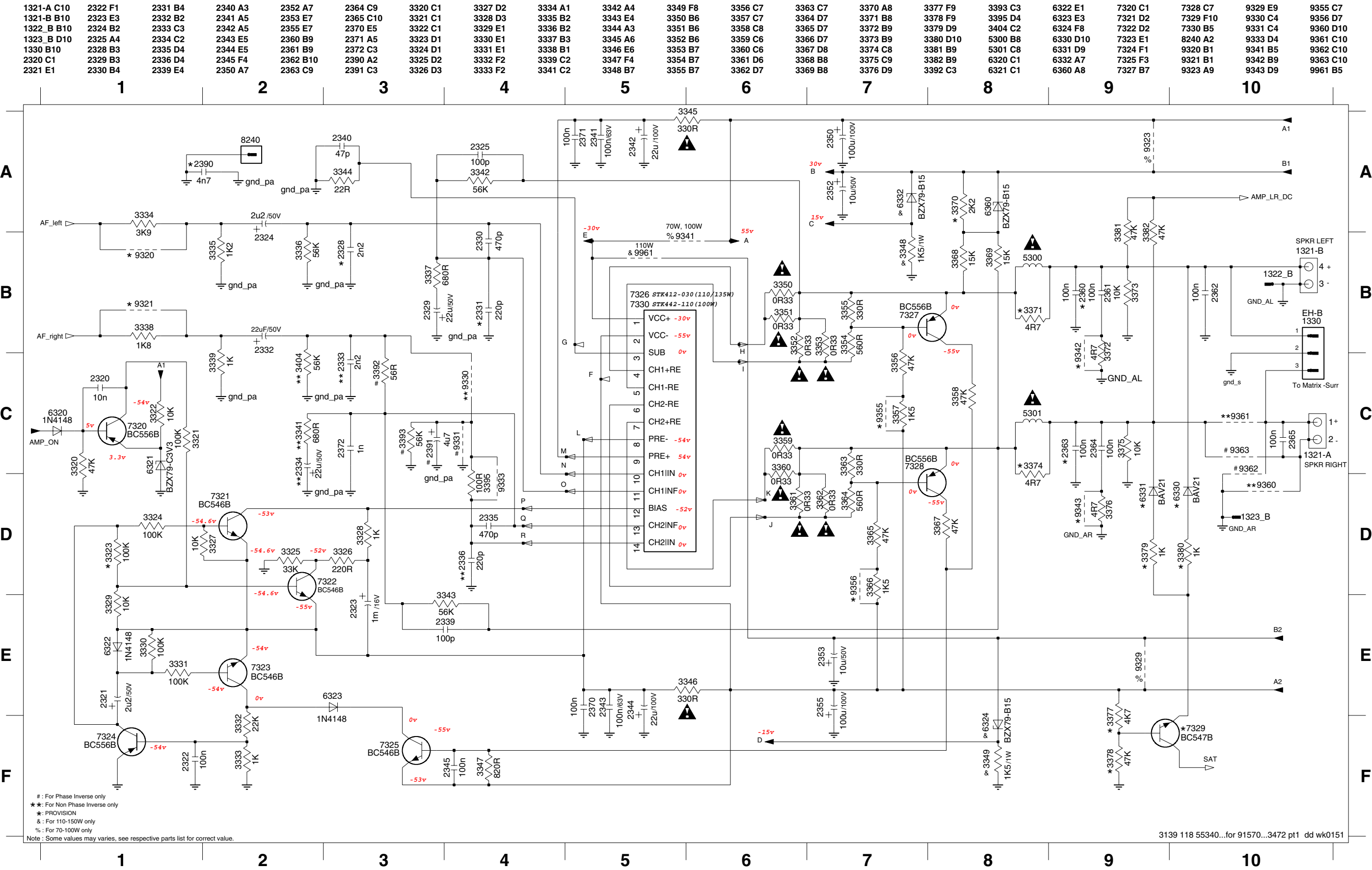
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1251	C5	2261	B6	2350	C3	3262	C3	3292	C4	3338	A4	3366	B2	3407	C3	6360	A1	7327	B3	9455	A2	9492	B5	9522	B5
1252	B5	2262	A6	2352	B4	3263	C4	3295	A5	3339	A4	3367	A3	3409	A4	7240	A4	7328	A2	9456	C1	9493	A4	9524	B6
1259	A5	2263	A6	2353	C4	3264	C2	3300	C2	3341	A3	3368	B1	5300	C1	7241	A4	7329	B3	9457	B2	9494	A4	9525	B4
1260	A5	2265	C5	2355	B3	3265	A5	3301	C2	3342	A1	3369	A1	5301	A1	7242	A4	7330	B2	9458	B3	9495	B5	9526	C6
1261	A5	2300	C2	2360	C1	3268	C5	3302	C3	3343	A2	3370	A1	6250	A4	7250	A2	8240	B5	9460	B3	9496	A4	9527	C6
1262	A5	2320	C6	2361	C1	3269	C6	3303	C2	3344	B3	3371	C1	6251	A4	7251	A3	9250	C4	9462	A3	9497	B5	9528	B6
1263	A5	2321	C6	2362	C1	3270	C5	3304	C3	3345	B4	3372	C1	6252	C3	7252	A2	9251	C4	9465	B2	9498	A5	9529	A5
1264	A5	2322	C6	2363	A1	3271	C5	3305	C3	3346	B4	3373	C1	6253	C4	7253	A3	9252	C4	9467	A3	9499	A5	9530	A5
1280	C5	2323	B6	2364	B1	3272	C5	3306	C3	3347	B3	3374	A1	6254	C4	7254	C1	9253	C4	9468	B3	9500	A5	9531	B5
1300	C4	2324	A4	2365	B1	3273	A6	3320	C6	3348	B3	3375	A1	6256	C6	7255	C2	9320	A4	9470	B3	9501	B4	9532	A5
1321	B1	2325	A2	2370	B1	3274	A6	3321	C6	3349	C2	3376	B1	6257	C6	7256	C3	9321	A4	9472	C2	9502	B5	9533	C5
1322	A C2	2328	A3	2371	A2	3275	B6	3322	C6	3350	B2	3377	B3	6258	C4	7259	C5	9323	B4	9473	C3	9503	A4	9534	C5
1322	B B5	2329	A4	2372	A3	3276	A6	3323	C6	3351	B1	3378	B3	6259	A6	7260	A6	9329	C3	9474	C3	9504	A5	9535	C5
1323	A C2	2330	A2	2390	A4	3277	B6	3324	C6	3352	B2	3379	B3	6260	B6	7261	A6	9330	A2	9475	B3	9505	A5	9536	C5
1323	B B5	2331	A3	2391	A2	3278	A5	3325	B6	3353	B2	3380	C3	6261	A5	7262	A6	9331	A2	9476	B5	9506	A5	9537	B6
1330	A2	2332	A4	3250	A2	3279	A4	3326	B6	3354	B3	3381	C2	6262	A6	7263	A6	9333	A2	9477	B3	9507	B5	9538	C5
2250	A3	2333	A3	3251	A2	3280	A5	3327	B6	3355	B2	3382	B1	6263	A6	7264	C5	9341	B3	9478	B3	9508	B5	9540	A5
2251	A3	2334	A3	3252	A2	3281	A6	3328	B6	3356	B3	3392	A2	6264	C5	7265	C5	9342	C1	9481	B4	9509	A3	9560	A2
2252	A3	2335	A2	3253	A2	3282	A6	3329	C6	3357	B3	3393	A2	6265	A6	7300	C3	9343	B1	9482	B4	9510	A5	9561	B3
2253	A3	2336	A3	3254	A2	3283	A6	3330	C6	3358	A3	3395	A2	6320	C6	7301	C4	9355	B3	9483	C5	9512	A6	9562	A4
2254	C4	2339	A1	3255	A3	3284	A6	3331	C6	3359	B2	3400	A4	6321	C6	7320	C6	9356	B2	9484	C5	9514	A6	9563	A1
2255	C3	2340	A3	3256	A3	3285	A6	3332	C6	3360	B1	3401	B4	6322	C6	7321	B6	9360	B1	9485	B4	9515	A6	9564	C3
2256	C4	2341	A3	3257	A3	3286	C5	3333	C6	3361	B3	3402	A5	6323	B6	7322	B6	9361	A1	9486	B4	9516	B6	9565	C3
2257	C3	2342	B3	3258	C2	3287	C5	3334	A4	3362	B2	3403	A4	6324	B2	7323	B6	9362	A1	9487	B4	9517	B6		
2258	C3	2343	B4	3259	C2	3288	C5	3335	A4	3363	B2	3404	A3	6330	C1	7324	C6	9363	B1	9488	B4	9519	A5		
2259	C2	2344	B3	3260	C2	3289	C6	3336	A3	3364	B2	3405	C3	6331	A1	7325	C6	9452	C1	9489	B4	9520	B6		



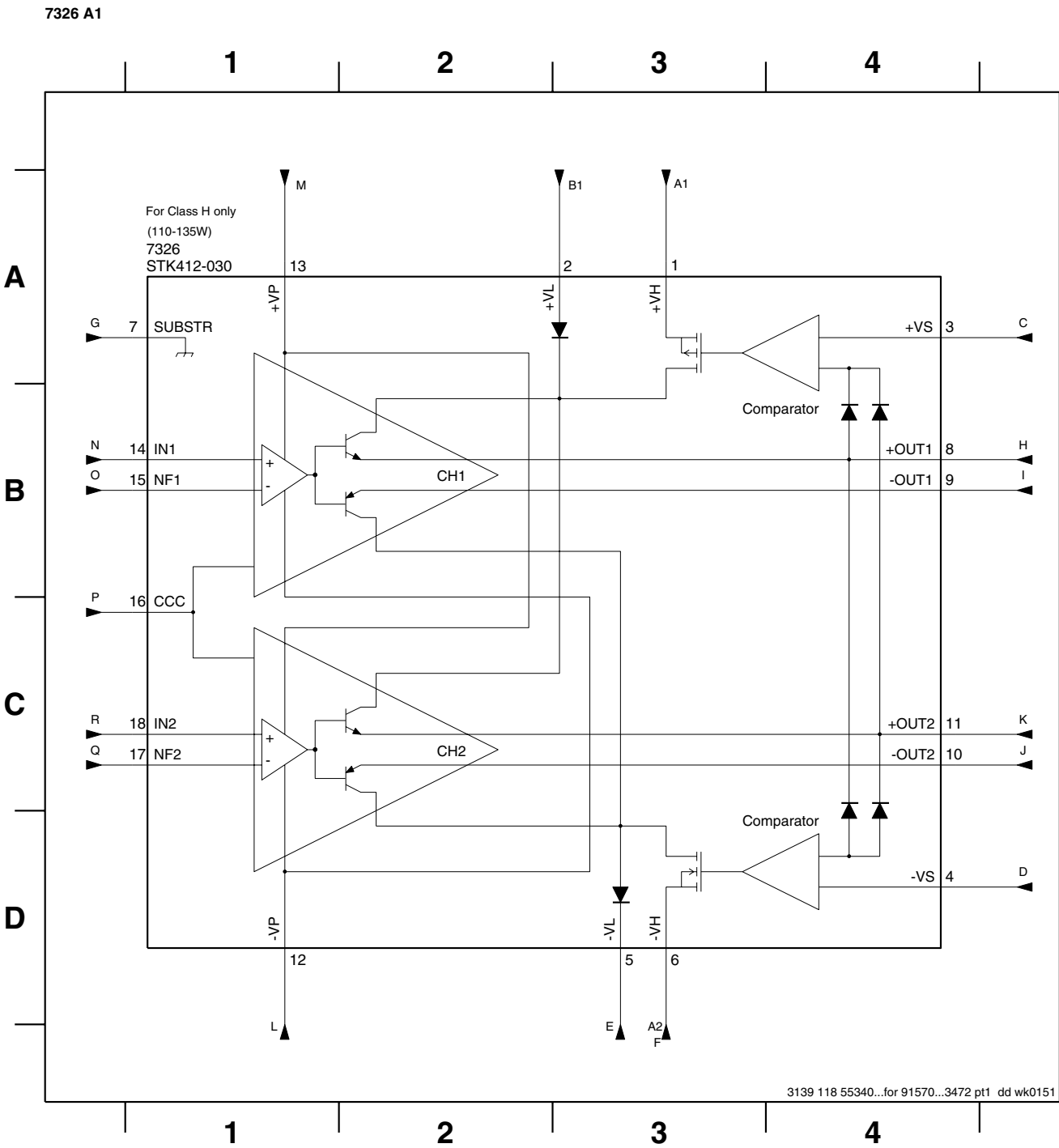
LEFT/RIGHT AMPLIFIER & SUPPLY BOARD - CIRCUIT DIAGRAM (PART 1)



LEFT/RIGHT AMPLIFIER & SUPPLY BOARD - CIRCUIT DIAGRAM (PART 2)



LEFT/RIGHT AMPLIFIER & SUPPLY BOARD - CIRCUIT DIAGRAM (PART 3)



ELECTRICAL PARTS LIST - MAINS BOARD

MISCELLANEOUS

1901	4822 265 31015	△ Mains Socket	/21	1905	2422 086 10963	△ Fuse T5A	/21
1901	2422 030 00328	△ Mains Socket	/37	1905	4822 252 51123	△ Fuse T6,3A	/37
1902	2422 129 16478	△ Voltage Selector	/21	1914	4822 267 10953	Flex Connector 7P	
1903	4822 071 52001	△ Fuse T200mA	/21	1921	4822 071 55002	△ Fuse T5A	
1904	4822 071 52001	△ Fuse T200mA	/21	1922	4822 071 55002	△ Fuse T5A	

ELECTRICAL PARTS LIST - MAINS BOARD

1923	4822 071 55002	△ Fuse T5A	
1924	4822 071 55002	△ Fuse T5A	
1925	4822 071 52502	△ Fuse T2,5A	
1926	4822 071 51602	△ Fuse T1,6A	

CAPACITORS

2901	4822 121 43526	47nF 5% 250V	
2902	4822 121 43526	47nF 5% 250V	
2903	4822 124 40207	100uF 20% 25V	/21
2904	4822 124 40255	100uF 20% 63V	
2912	4822 124 21913	1uF 20% 63V	
2921	4822 121 40518	100nF 10% 250V	
2922	4822 121 40518	100nF 10% 250V	
2923	4822 121 40518	100nF 10% 250V	
2924	4822 121 43526	47nF 5% 250V	
2925	4822 121 43526	47nF 5% 250V	
2926	4822 121 43526	47nF 5% 250V	
2927	4822 124 12423	4700uF 20% 63V	
2928	4822 124 12423	4700uF 20% 63V	
2930	2022 020 00644	3300uF 20% 50V	
2932	2022 020 00644	3300uF 20% 50V	
2941	5322 121 42386	100nF 5% 63V	
2942	5322 121 42386	100nF 5% 63V	
2944	4822 124 42367	3300uF 20% 35V	
2945	4822 124 12328	6800uF 25V	
2948	4822 123 14025	2200uF 20% 16V	

RESISTORS

3901	4822 053 21106	△ 10M 5% 0,5W	/37
3902	4822 053 10121	120R 5% 1W	/37
3903	4822 050 11002	1k 1% 0,4W	
3904	4822 050 11002	1k 1% 0,4W	
3905	4822 116 52283	4k7 5% 0,5W	/21
3905	4822 116 52244	15k 5% 0,5W	/37
3906	4822 116 52256	2k2 5% 0,5W	/21
3907	4822 050 21003	10k 1% 0,6W	/21
3912	4822 116 52234	100k 5% 0,5W	
3913	4822 050 21003	10k 1% 0,6W	
3914	4822 116 52176	10R 5% 0,5W	
3922	4822 050 23303	33k 1% 0,6W	
3923	4822 050 23303	33k 1% 0,6W	
3941	4822 117 11342	△ 0R33 5% 2W	
3942	4822 117 11342	△ 0R33 5% 2W	
3951	4822 052 10479	△ 47R 5% 0,33W	
3952	4822 116 83961	6k8 5%	
3953	4822 116 83961	6k8 5%	
3954	4822 116 83881	390R 5% 0,5W	
3955	4822 050 11002	1k 1% 0,4W	

COILS & FILTERS

5901	4822 157 11628	△ Mains Choke	/21
5903	3103 308 30600	△ Standby Transformer	/21

5903	3103 308 30800	△ Standby Transformer	/37
5905	4822 280 10382	△ Relay	

DIODES

6900	4822 130 31878	1N4003G	/37
6901	4822 130 32245	BYV10-40	/21
6901	4822 130 31878	1N4003G	/37
6902	4822 130 32245	BYV10-40	/21
6902	4822 130 31878	1N4003G	/37
6903	4822 130 32245	BYV10-40	/21
6903	4822 130 31878	1N4003G	/37
6904	4822 130 32245	BYV10-40	/21
6904	4822 130 31878	1N4003G	/37
6905	4822 130 30621	1N4148	
6906	4822 130 30621	1N4148	
6907	4822 130 34382	BZX79-C8V2	/21
6908	4822 130 32245	BYV10-40	/21
6909	4822 130 31878	1N4003G	/21
6910	4822 130 30621	1N4148	
6911	4822 130 30621	1N4148	
6915	4822 130 30621	1N4148	
6916	4822 130 34382	BZX79-C8V2	
6917	4822 130 30621	1N4148	
6918	4822 130 30621	1N4148	
6921	4822 130 10944	△ GBU6D	
6922	4822 130 10944	△ GBU6D	
6923	4822 130 31878	1N4003G	
6923	5322 130 80686	1N5392	
6924	4822 130 31878	1N4003G	
6924	5322 130 80686	1N5392	
6925	4822 130 31878	1N4003G	
6925	5322 130 80686	1N5392	
6926	4822 130 31878	1N4003G	
6926	5322 130 80686	1N5392	
6927	4822 130 31878	1N4003G	
6927	5322 130 80686	1N5392	
6928	4822 130 31878	1N4003G	
6928	5322 130 80686	1N5392	
6930	4822 130 34233	BZX79-C5V1	
6955	4822 130 34142	BZX79-C33	
6956	4822 130 31878	1N4003G	

TRANSISTORS & INTEGRATED CIRCUITS

7901	4822 130 41246	BC327-25	/21
7902	4822 130 40959	BC547B	/21
7911	4822 130 40959	BC547B	
7912	4822 130 40959	BC547B	
7951	9322 003 63676	TBC327-40	
7952	9322 003 63676	TBC327-40	

Note : Only the parts mentioned in this list are normal service spare parts.

ELECTRICAL PARTS LIST - LEFT/RIGHT AMPLIFIER & SUPPLY BOARD**MISCELLANEOUS**

0028	3139 114 73910	Holder STK PWR2002 150W
1252	4822 267 10953	Flex Connector 7P
1259	4822 267 11039	Flex Connector 11P
1280	4822 071 51002	△ Fuse T1A
1321	4822 267 31176	L/R Speaker Terminal

CAPACITORS

2250	4822 124 40255	100uF 20% 63V
2251	4822 124 40248	10uF 20% 63V
2252	4822 122 10577	3,3nF 10% 16V
2253	4822 124 40433	47uF 20% 25V
2257	4822 124 40248	10uF 20% 63V
2258	5322 121 42386	100nF 5% 63V
2259	5322 121 42386	100nF 5% 63V
2260	4822 121 51387	10nF 20% 16V
2261	4822 124 41584	100uF 20% 10V
2263	4822 124 40248	10uF 20% 63V
2300	4822 124 40207	100uF 20% 25V
2320	4822 121 43693	10nF 100V
2321	4822 124 22652	2,2uF 20% 50V
2322	5322 121 42386	100nF 5% 63V
2323	4822 124 81144	1000uF 16V
2324	4822 124 22652	2,2uF 20% 50V
2325	4822 122 33195	100pF 10% 50V
2329	4822 124 81151	22uF 50V
2330	4822 122 33519	470pF 10% 50V
2332	4822 124 81151	22uF 50V
2335	4822 122 33519	470pF 10% 50V
2339	4822 122 33195	100pF 10% 50V
2340	4822 126 12726	47pF 5% 50V
2341	5322 121 42386	100nF 5% 63V
2342	4822 124 40764	22uF 100 V
2343	5322 121 42386	100nF 5% 63V
2344	4822 124 40764	22uF 100 V
2345	2020 561 90365	100nF +80/-20% 50V
2350	2020 012 93547	100uF 20% 63V
2352	4822 124 40248	10uF 20% 63V
2353	4822 124 40248	10uF 20% 63V
2355	2020 012 93547	100uF 20% 63V
2361	5322 121 42386	100nF 5% 63V
2362	5322 121 42386	100nF 5% 63V
2364	5322 121 42386	100nF 5% 63V
2365	5322 121 42386	100nF 5% 63V
2370	2020 561 90365	100nF +80/-20% 50V
2371	2020 561 90365	100nF +80/-20% 50V
2372	4822 122 33197	1nF 10% 50V
2391	4822 124 40769	4,7uF 20% 100V

RESISTORS

3250	4822 116 52256	2k2 5% 0,5W
3251	4822 116 52256	2k2 5% 0,5W
3253	4822 116 83883	470R 5% 0,5W

3255	4822 116 52213	180R 5% 0,5W
3256	4822 116 52206	120R 5% 0,5W
3257	4822 050 21003	10k 1% 0,6W
3264	4822 050 21003	10k 1% 0,6W
3265	4822 116 52256	2k2 5% 0,5W
3268	4822 116 52244	15k 5% 0,5W
3269	4822 116 83961	6k8 5%
3270	4822 050 11002	1k 1% 0,4W
3271	4822 116 52263	2k7 5% 0,5W
3272	4822 116 52289	5k6 5% 0,5W
3273	4822 116 52228	680R 5% 0,5W
3274	4822 116 52234	100k 5% 0,5W
3275	4822 050 23303	33k 1% 0,6W
3276	4822 116 83884	47k 5% 0,5W
3277	4822 116 52234	100k 5% 0,5W
3279	4822 116 83884	47k 5% 0,5W
3280	4822 116 52303	8k2 5% 0,5W
3281	4822 116 83882	39k 5% 0,5W
3283	4822 116 52228	680R 5% 0,5W
3284	4822 116 83884	47k 5% 0,5W
3285	4822 116 52291	56k 5% 0,5W
3292	4822 116 52269	3k3 5% 0,5W
3295	4822 050 11002	1k 1% 0,4W
3300	4822 116 83883	470R 5% 0,5W
3301	4822 117 12063	NTC DC 5W 10k 5%
3302	4822 116 83876	270R 5% 0,5W
3303	4822 050 11002	1k 1% 0,4W
3304	4822 052 10108	△ 1R 5% 0,33W
3305	4822 116 83876	270R 5% 0,5W
3306	4822 116 83876	270R 5% 0,5W
3320	4822 116 83884	47k 5% 0,5W
3321	4822 116 52234	100k 5% 0,5W
3322	4822 050 21003	10k 1% 0,6W
3324	4822 116 52234	100k 5% 0,5W
3325	4822 050 23303	33k 1% 0,6W
3326	4822 116 83872	220R 5% 0,5W
3327	4822 050 21003	10k 1% 0,6W
3328	4822 050 11002	1k 1% 0,4W
3329	4822 050 21003	10k 1% 0,6W
3330	4822 116 52234	100k 5% 0,5W
3331	4822 116 52234	100k 5% 0,5W
3332	4822 116 52257	22k 5% 0,5W
3333	4822 050 11002	1k 1% 0,4W
3334	4822 116 52276	3k9 5% 0,5W
3335	4822 116 52207	1k2 5% 0,5W
3336	4822 116 52291	56k 5% 0,5W
3337	4822 116 52228	680R 5% 0,5W
3338	4822 116 52249	1k8 5% 0,5W
3339	4822 050 11002	1k 1% 0,4W
3342	4822 116 52291	56k 5% 0,5W
3343	4822 116 52291	56k 5% 0,5W
3344	4822 116 52186	22R 5% 0,5W

ELECTRICAL PARTS LIST - LEFT/RIGHT AMPLIFIER & SUPPLY BOARD

3345	4822 053 10221	△ 220R 5% 1W	/21
3345	4822 053 10331	△ 330R 5% 1W	/37
3346	4822 053 10221	△ 220R 5% 1W	/21
3346	4822 053 10331	△ 330R 5% 1W	/37
3347	4822 116 52231	820R 5% 0,5W	
3348	4822 053 10152	1k5 5% 1W	
3349	4822 053 10152	1k5 5% 1W	
3350	2322 194 96001	△ 0R33 5%	
3351	2322 194 96001	△ 0R33 5%	
3352	2322 194 96001	△ 0R33 5%	
3353	2322 194 96001	△ 0R33 5%	
3354	4822 116 52226	560R 5% 0,5W	
3355	4822 116 52219	330R 5% 0,5W	
3356	4822 116 83884	47k 5% 0,5W	
3357	4822 116 52243	1k5 5% 0,5W	
3358	4822 116 83884	47k 5% 0,5W	
3359	2322 194 96001	△ 0R33 5%	
3360	2322 194 96001	△ 0R33 5%	
3361	2322 194 96001	△ 0R33 5%	
3362	2322 194 96001	△ 0R33 5%	
3363	4822 116 52219	330R 5% 0,5W	
3364	4822 116 52226	560R 5% 0,5W	
3365	4822 116 83884	47k 5% 0,5W	
3366	4822 116 52243	1k5 5% 0,5W	
3367	4822 116 83884	47k 5% 0,5W	
3368	4822 116 52244	15k 5% 0,5W	
3369	4822 116 52244	15k 5% 0,5W	
3372	4822 053 10478	4R7 5% 1W	
3373	4822 050 21003	10k 1% 0,6W	
3375	4822 050 21003	10k 1% 0,6W	
3376	4822 053 10478	4R7 5% 1W	
3381	4822 116 83884	47k 5% 0,5W	
3382	4822 116 83884	47k 5% 0,5W	
3392	4822 050 15609	56R 1% 0,4W	
3393	4822 116 52291	56k 5% 0,5W	
3395	4822 116 52175	100R 5% 0,5W	

COILS & FILTERS

5300	4822 157 70599	△ IND FXD BEAD EMI
5301	4822 157 70599	△ IND FXD BEAD EMI

DIODES

6250	4822 130 34281	BZX79-C15
6251	4822 130 61219	BZX79-B10
6253	4822 130 30621	1N4148
6254	4822 130 31878	1N4003G
6256	4822 130 30621	1N4148
6257	4822 130 30621	1N4148
6258	4822 130 34173	BZX79-B5V6
6259	4822 130 34278	BZX79-C6V8
6260	4822 130 30621	1N4148
6263	4822 130 30621	1N4148

6265	4822 130 34233	BZX79-C5V1
6320	4822 130 30621	1N4148
6321	5322 130 31504	BZX79-C3V3
6322	4822 130 30621	1N4148
6323	4822 130 30621	1N4148
6324	4822 130 34281	BZX79-B15
6332	4822 130 34281	BZX79-B15
6360	4822 130 34281	BZX79-B15

TRANSISTORS & INTEGRATED CIRCUITS

7250	9322 139 23687	BDX53BFP
7251	4822 130 40959	BC547B
7253	4822 130 40959	BC547B
7257	4822 209 31841	L7805CP
7259	4822 130 40981	BC337-25
7260	4822 130 40959	BC547B
7261	4822 130 44568	BC557B
7262	4822 130 40959	BC547B
7263	4822 130 40959	BC547B
7300	4822 130 41246	BC327-25
7320	4822 130 41691	BC556B
7321	4822 130 44461	BC546B
7322	4822 130 44461	BC546B
7323	4822 130 44461	BC546B
7324	4822 130 41691	BC556B
7325	4822 130 44461	BC546B
7326	9322 169 76682	STK412-030
7327	4822 130 41691	BC556B
7328	4822 130 41691	BC556B

Note : Only the parts mentioned in this list are normal service spare parts.

BRIEF INTRODUCTION OF THE AF9 BOARD

The AF9 Board consists of the following features :

- a. TDA7468D IC
TDA7468D IC (7501) which includes functions such as source selection, loudness control, dynamic bass control, treble control, volume control and muting function. Sound features such as ALC, DBB, DSC and IS are controllable via I²C Bus from the microprocessor.

The TDA7468D IC caters for 4 input sources namely TUNER, TAPE, CD and AUX. It also has a Mic mix input. In our application, software will switch the input source to previous source MUTE during STANDBY mode and some other occasions where noise from other input source is undesirable.

Note that the input to the TDA7468D IC must be ac coupled to prevent 'pop' noise. Input networks are included to provide appropriate attenuation for various sources.
- b. SIMPLE MIC MIXING
The AF9 Board has provisions which can be configured to cater for one of the following:
MM : which caters for Mic mixing with additional Mic amplifier board.
NM : non Mic mixing.
- c. DOLBY PRO LOGIC (DPL) INTERFACE
The AF9 Board has provisions which can be configured to cater for DPL.
- d. LINE OUT
Line out cinch socket for connection to external amplifier.
- e. SUB-WOOFER OUT
Sub-woofer out cinch socket for connection to active sub-woofer speaker.
- f. INCREDIBLE SURROUND
Incredible surround effect using transistor circuit to create phase shifting and spatial effect.
- g. HEADPHONE AMPLIFIER
Headphone amplifier to drive 32 ohm to 1kohm headphone.
- h. CD STANDBY CONTROL
CD Standby Control circuit which switches on the supply to CD servo control IC, digital out buffer IC, HF circuit and the laser light pen in CD mode only.
- i. ATTENUATION NETWORK
Attenuation network is provided at the output of the AF9 Board for interfacing with power board of different output power.
- j. CD DIGITAL OUT
CD Digital out cinch socket for connection to external digital audio decoders.

AF9 BOARD

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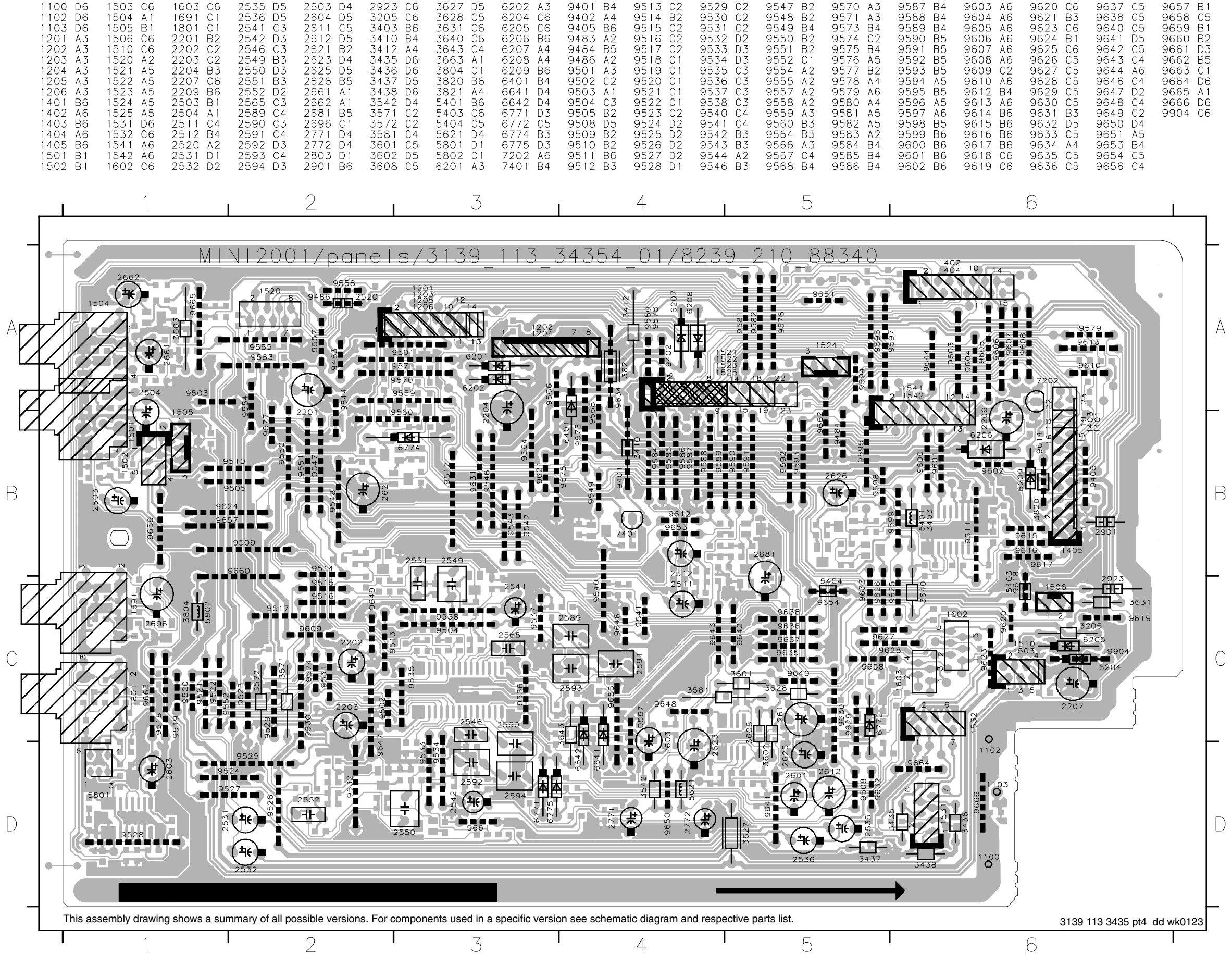
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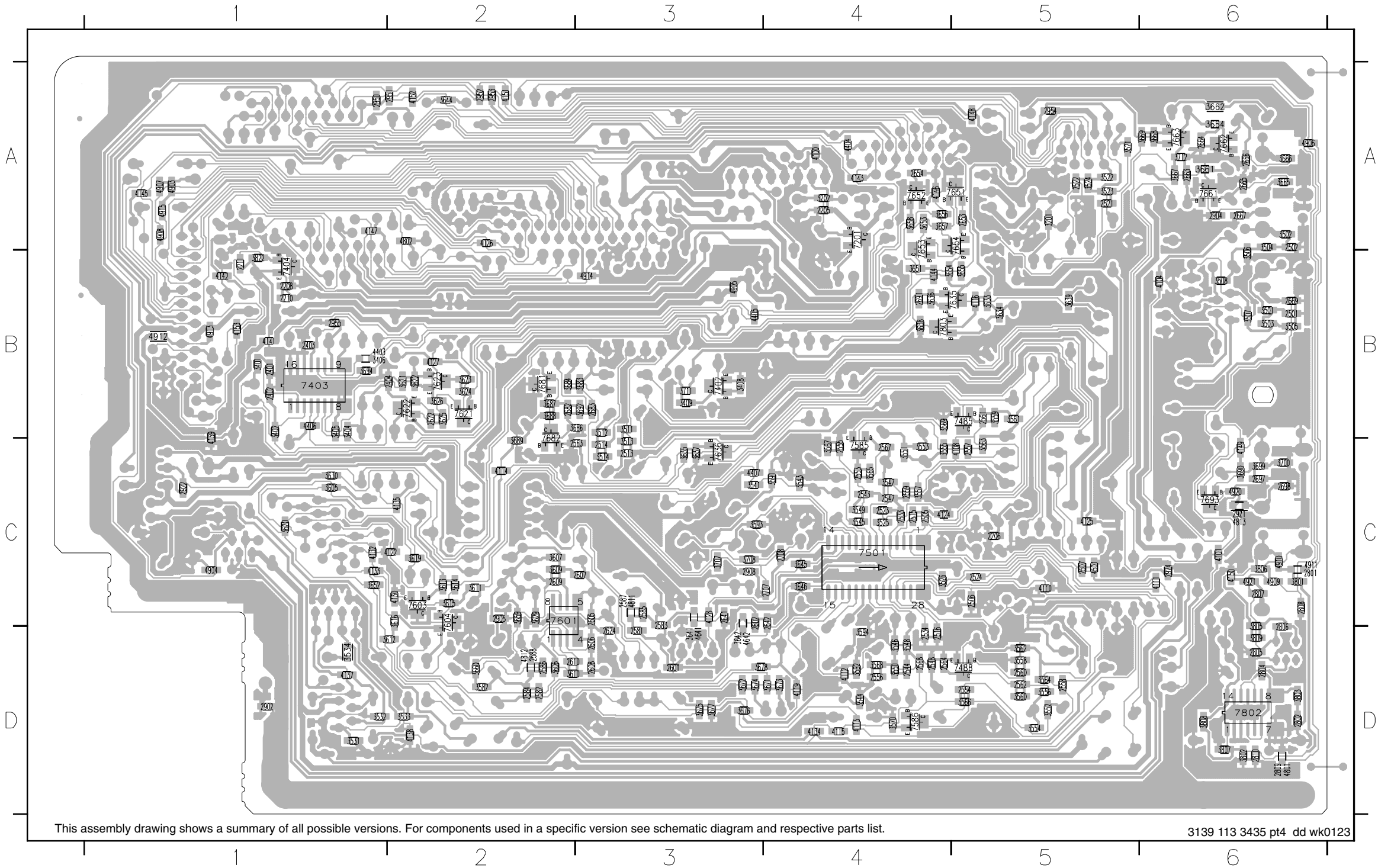
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AF9 BOARD - COMPONENT LAYOUT



AF9 BOARD - CHIP LAYOUT

2205 A4	2523 C4	2567 C4	2641 C3	2805 D6	3202 A4	3521 A5	3552 D5	3591 C4	3624 B2	3654 B4	3676 D3	3803 D6	4124 C4	4148 A5	4904 C1	7501 C4	7693 C6
2206 C5	2524 C5	2568 D4	2642 C4	2806 D6	3401 B1	3522 A5	3553 C4	3592 D4	3625 B2	3655 B5	3677 D3	3805 C6	4125 C5	4149 C6	4905 B3	7585 C4	7802 D6
2208 B1	2533 C4	2581 D3	2653 A5	2807 C6	3402 B1	3523 A5	3554 D5	3593 C3	3626 B2	3656 A4	3678 D3	3806 C6	4126 A2	4150 C6	4906 A6	7586 D4	7803 B4
2210 B1	2534 D4	2582 D2	2654 A4	2808 C6	3404 B1	3524 A5	3555 C4	3594 D4	3629 C2	3657 A4	3683 B3	3807 D6	4127 B2	4151 A2	4907 A1	7601 C2	
2211 B1	2543 C4	2583 C3	2663 A6	2809 D6	3405 B1	3525 C4	3556 D5	3605 C1	3630 C1	3658 A4	3684 B2	3808 D6	4128 C3	4152 A2	4908 A1	7603 C2	
2401 B1	2544 D4	2584 D2	2664 A6	2810 D6	3406 B1	3526 C4	3557 C4	3606 D2	3633 B5	3659 C2	3686 B3	3809 D6	4130 C2	4153 B1	4909 C6	7604 C2	
2402 B1	2547 C4	2585 C3	2665 A6	2902 D1	3408 B3	3531 D1	3558 D5	3607 C2	3634 B5	3660 D2	3687 B2	3822 B1	4132 C1	4403 B1	4910 C6	7621 B2	
2403 B1	2548 D4	2586 D2	2666 A6	2904 A6	3409 B3	3532 D1	3559 B5	3609 C2	3635 C3	3661 A6	3688 B2	4100 A4	4133 C1	4404 A4	4911 C6	7622 B2	
2404 B2	2553 C4	2587 C3	2667 A6	2905 C2	3501 B6	3533 D2	3560 D5	3610 D2	3636 B4	3662 A6	3689 C2	4101 C6	4134 D4	4405 B3	4912 B1	7623 B2	
2501 B6	2554 D5	2588 D2	2669 B6	2908 C3	3502 A6	3534 D1	3561 B5	3611 C2	3637 C3	3664 A6	3690 C6	4104 B6	4135 C2	4406 B1	4913 B1	7635 B5	
2502 A6	2555 C4	2601 D3	2682 B2	2921 C6	3503 B6	3541 C3	3562 D5	3612 D2	3638 B4	3665 A6	3692 B3	4108 C5	4137 D1	4407 C3	4914 B3	7636 C3	
2505 C4	2556 D4	2602 C3	2683 B3	2922 C1	3504 A6	3543 C4	3563 C5	3613 C2	3639 B5	3666 A6	3694 B1	4110 C5	4138 D2	4501 C5	4915 A1	7651 A5	
2506 C5	2557 C5	2605 C3	2691 B4	2924 C6	3505 B6	3544 D4	3564 D5	3614 C2	3641 D3	3667 A6	3699 C6	4111 C6	4139 B1	4641 D3	4920 C6	7652 A4	
2507 C5	2558 D5	2606 D3	2697 C6	2950 A1	3506 B6	3545 C4	3565 C4	3615 C2	3642 D3	3668 A6	3700 C6	4112 D4	4141 B1	4642 D3	4921 C6	7653 A4	
2513 C3	2559 C4	2607 C3	2698 C6	2951 A2	3507 B6	3546 D4	3566 D5	3616 C2	3644 A2	3669 A6	3707 C3	4113 D4	4142 B1	4801 D6	7201 A4	7654 A5	
2514 C3	2560 D5	2608 D3	2707 C4	2952 A2	3508 B6	3547 C4	3567 C4	3619 C2	3645 C4	3671 D4	3708 C3	4114 C2	4143 A4	4802 A2	7402 B3	7661 A6	
2515 C4	2561 B5	2609 C2	2708 C4	2953 A2	3511 B3	3548 D4	3568 D4	3620 C1	3646 C4	3672 D3	3711 B3	4115 D4	4144 B4	4811 C3	7403 B1	7662 A6	
2516 D4	2562 D5	2610 D2	2801 C6	2954 A5	3512 B3	3549 D4	3569 B4	3621 B2	3651 B4	3673 D4	3712 A6	4116 B5	4145 A1	4812 D2	7404 B1	7663 A6	
2521 A5	2563 C3	2622 B2	2802 D6	2955 B1	3513 C3	3550 D4	3570 D4	3622 B2	3652 C1	3674 D3	3801 C6	4119 D4	4146 A4	4813 C6	7485 B5	7681 B2	
2522 A5	2564 D4	2624 D3	2804 D6	3201 A5	3514 C3	3551 C4	3582 D2	3623 B2	3653 A4	3675 D3	3802 D6	4122 C2	4147 A1	4903 A1	7488 D5	7682 B2	

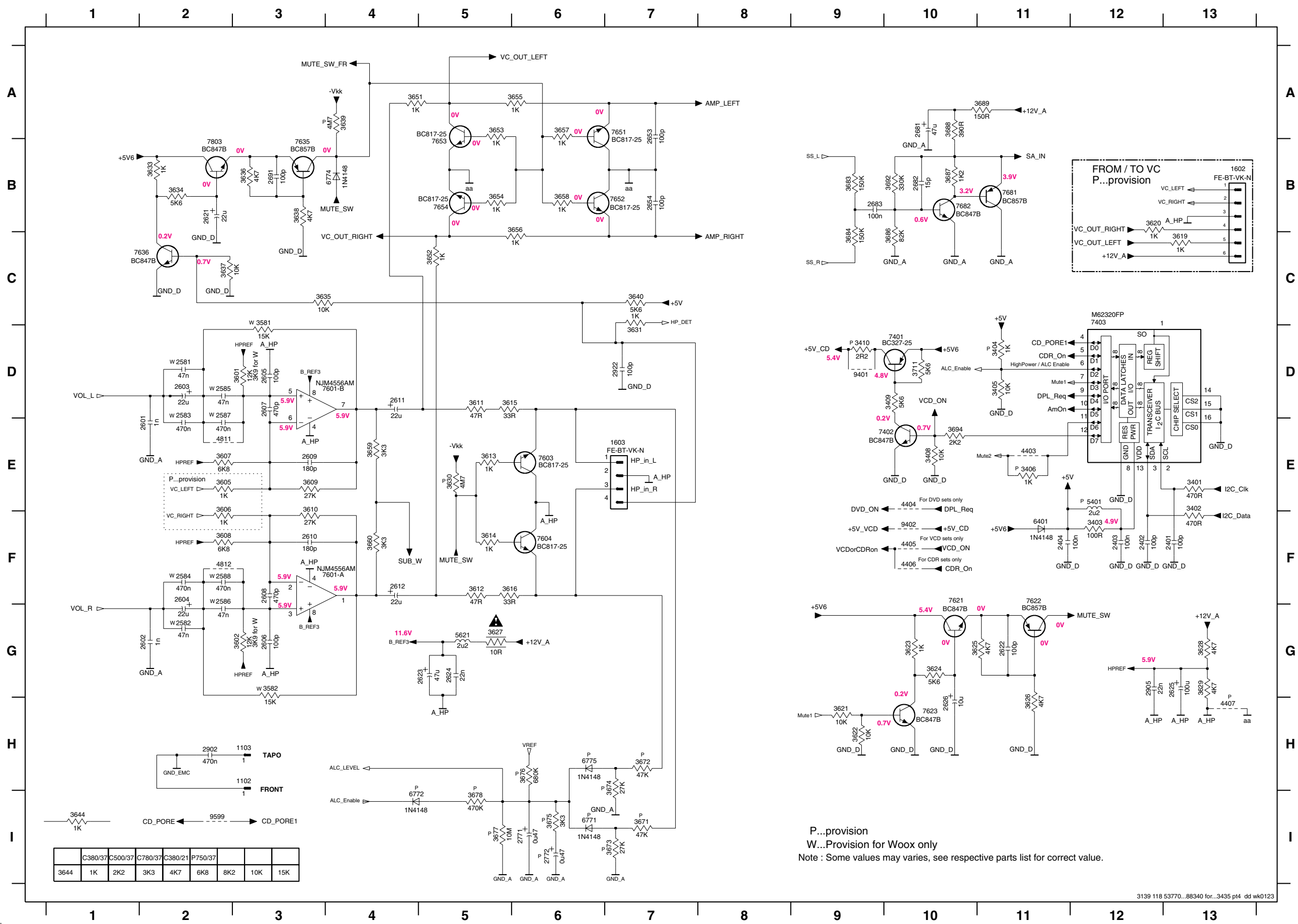


[illegible]

3139 118 53770...88340 for...3435 pt4 dd wk0123

15001 E1	3511 A3
15002 E3	3512 B3
15003 F1	3513 A3
15004 H1	3514 B3
15005 E4	3521 A3
15006 A1	3522 A3
15010 F1	3523 A3
15011 C1	3524 A3
15022 C2	3525 E6
1691 H5	3526 E7
2201 B7	3531 C2
2202 C7	3532 C3
2203 D7	3533 C3
2204 C6	3534 C3
2205 C5	3541 A7
2501 E2	3542 I7
2501 E2	3543 A9
2502 E2	3544 I9
2503 D3	3545 B9
2504 D3	3546 G9
2505 F5	3547 G9
2506 F7	3548 F9
2507 E7	3549 B9
2511 A4	3550 G9
2512 B4	3551 C11
2513 A4	3552 F11
2514 B4	3553 C11
2515 F6	3554 F11
2516 F7	3555 C12
2521 A4	3556 F12
2522 A4	3557 C12
2523 F6	3558 G12
2524 F6	3559 C14
2531 D4	3560 F14
2532 C4	3561 B14
2533 F6	3562 F14
2534 F7	3563 A12
2535 B3	3564 G11
2536 C3	3565 B12
2541 A8	3566 G11
2542 H8	3567 B12
2543 H8	3568 H12
2544 G9	3569 B13
2546 F9	3570 H11
2547 B10	3571 B13
2548 G10	3572 G13
2549 C11	3591 A10
2551 C11	3593 A10
2552 F11	3594 I10
2553 B12	3641 D14
2554 G12	3642 E14
2555 B12	3643 D12
2556 H11	3645 D11
2557 B12	3646 G11
2558 G12	3646 G13
2559 C12	3662 B3
2560 G12	3663 G3
2561 C14	3664 G3
2562 G14	3665 G11
2563 C14	3666 H11
2564 G14	3667 G3
2565 C9	3668 I3
2566 B9	3669 I3
2567 C9	3690 H7
2568 A10	3699 C6
2569 I9	3700 H6
2591 A10	3707 E12
2592 H10	3708 E12
2593 A11	3710 I3
2594 H11	3712 F5
2641 D13	4641 D14
2642 D13	4642 E14
2661 G2	4813 G5
2662 I2	4920 E1
2663 I2	5403 A1
2664 I2	5404 B1
2665 H2	6201 C6
2666 H2	6202 C6
2667 G1	6641 D13
2668 G1	6642 E13
2696 G7	7201 B6
2697 H7	7485 C14
2698 G5	7488 C14
2707 E11	7501 C8
2708 E12	7585 B13
2709 E12	7586 C13
2901 E12	7661 G2
2921 G5	7662 H2
2923 B1	7663 B3
2924 F5	7693 H6
3201 B6	9618 A1
3202 C6	9654 B1
3435 D3	
3436 D3	
3437 D3	
3438 D3	
3501 D1	
3502 E1	
3503 D2	
3504 E2	
3505 E2	
3506 E2	
3507 E3	
3508 E3	

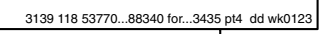
AF9 BOARD - CIRCUIT DIAGRAM (PART 2)



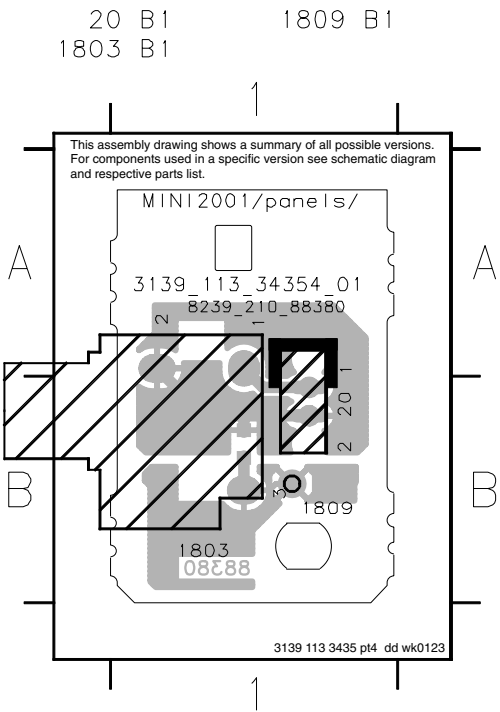
- 1102 H3
- 1103 H3
- 1602 B13
- 1603 E7
- 2401 F13
- 2402 F12
- 2403 F12
- 2404 F11
- 2581 D2
- 2582 G2
- 2583 D2
- 2584 F2
- 2585 D2
- 2586 F2
- 2587 D2
- 2588 F2
- 2601 E2
- 2602 G2
- 2603 D2
- 2604 F2
- 2605 D3
- 2606 G3
- 2607 D3
- 2608 F3
- 2609 E3
- 2610 F3
- 2611 D4
- 2612 F4
- 2621 B2
- 2622 G11
- 2623 G5
- 2624 G5
- 2625 G13
- 2626 H10
- 2653 A7
- 2654 B7
- 2681 A10
- 2682 B10
- 2683 B9
- 2691 B3
- 2771 I6
- 2902 H2
- 2905 G12
- 2922 D7
- 3401 E13
- 3402 E13
- 3403 F12
- 3404 D11
- 3405 D11
- 3406 E11
- 3408 E10
- 3409 D10
- 3410 D9
- 3581 D3
- 3582 G3
- 3601 D3
- 3602 G3
- 3605 E2
- 3606 F2
- 3607 E2
- 3608 F2
- 3609 E3
- 3610 F3
- 3611 D5
- 3612 F5
- 3613 E5
- 3614 F5
- 3615 D5
- 3616 F5
- 3619 C13
- 3620 B12
- 3621 H9
- 3622 H9
- 3623 G10
- 3624 G10
- 3625 G10
- 3626 H11
- 3627 G5
- 3628 G13
- 3629 G13
- 3630 E5
- 3631 D7
- 3633 B2
- 3634 B2
- 3635 C3
- 3636 B3
- 3637 C2
- 3638 B3
- 3639 A4
- 3640 C7
- 3644 I1
- 3651 A4
- 3652 C5
- 3653 A5
- 3654 B5
- 3655 A6
- 3656 C6
- 3657 A6
- 3658 B6
- 3659 E4
- 3660 F4
- 3671 I7
- 3672 H7
- 3673 I7
- 3674 H7
- 3675 I6
- 3676 H6
- 3677 I5
- 3678 I5
- 3683 B9
- 3684 C9
- 3686 C10
- 3687 B10
- 3688 A10
- 3689 A11
- 3692 B10
- 3694 E10
- 3711 D10
- 4403 E11
- 4404 E10
- 4405 F10
- 4406 F10
- 4407 H13
- 4811 E2
- 4812 F2
- 5401 E12
- 5621 G5
- 6401 F11
- 6771 I6
- 6772 I4
- 6774 B4
- 6775 H6
- 7401 D10
- 7402 E10
- 7403 C12
- 7601-A G3
- 7601-B D3
- 7603 E6
- 7604 F6
- 7621 F10
- 7622 F11
- 7623 H10
- 7635 B3
- 7636 C2
- 7651 A7
- 7652 B7
- 7653 B5
- 7654 B5
- 7681 B11
- 7682 B10
- 7803 B2
- 9401 D9
- 9402 F10
- 9599 I2

P...provision
W...Provision for Woox only
Note : Some values may varies, see respective parts list for correct value.

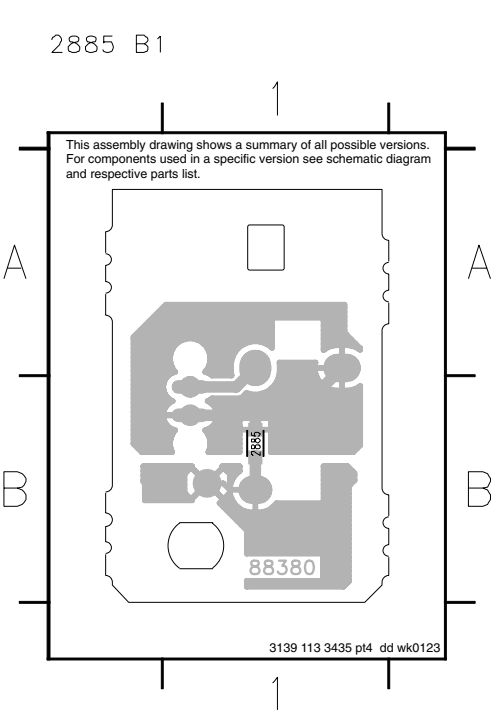
1100 F6	1203 C1	1206 C1	1403 A9	1520 E6	1523 D6	1541 D4	2207 D3	2210 F2	2801 B4	2804 B3	2807 B1	2810 A4	2951 E7	2954 E6	3412 A8	3803 B3	3806 A1	3809 B2	3822 F3	4903 B8	4906 A5	4909 A3	4912 B8	4915 C8	5802 A3	6206 F3	6209 F3	7802 A3	9484 D4	9634 E2
1201 C1	1204 E1	1401 A9	1404 D9	1521 A7	1524 A5	1542 D4	2208 F2	2211 F3	2802 C3	2805 B2	2808 B4	2901 F6	2952 E7	2955 E1	3801 B4	3804 A3	3807 B4	3820 E3	4801 B4	4907 C8	4907 C8	4910 A3	4913 B8	4921 B1	6204 F7	6207 C5	7202 E3	9405 C8	9486 E7	9904 F7
1202 E1	1205 C1	1402 D9	1405 A9	1522 A6	1525 B5	1801 A1	2209 F3	2520 E7	2803 B3	2806 B2	2809 B4	2950 E7	2953 E7	3205 D2	3802 A4	3805 B2	3808 A3	3821 E2	4802 C4	4905 C3	4908 C8	4911 A4	4914 B5	5801 B2	6205 D3	6208 C5	7404 F3	9483 F6	9614 E3	



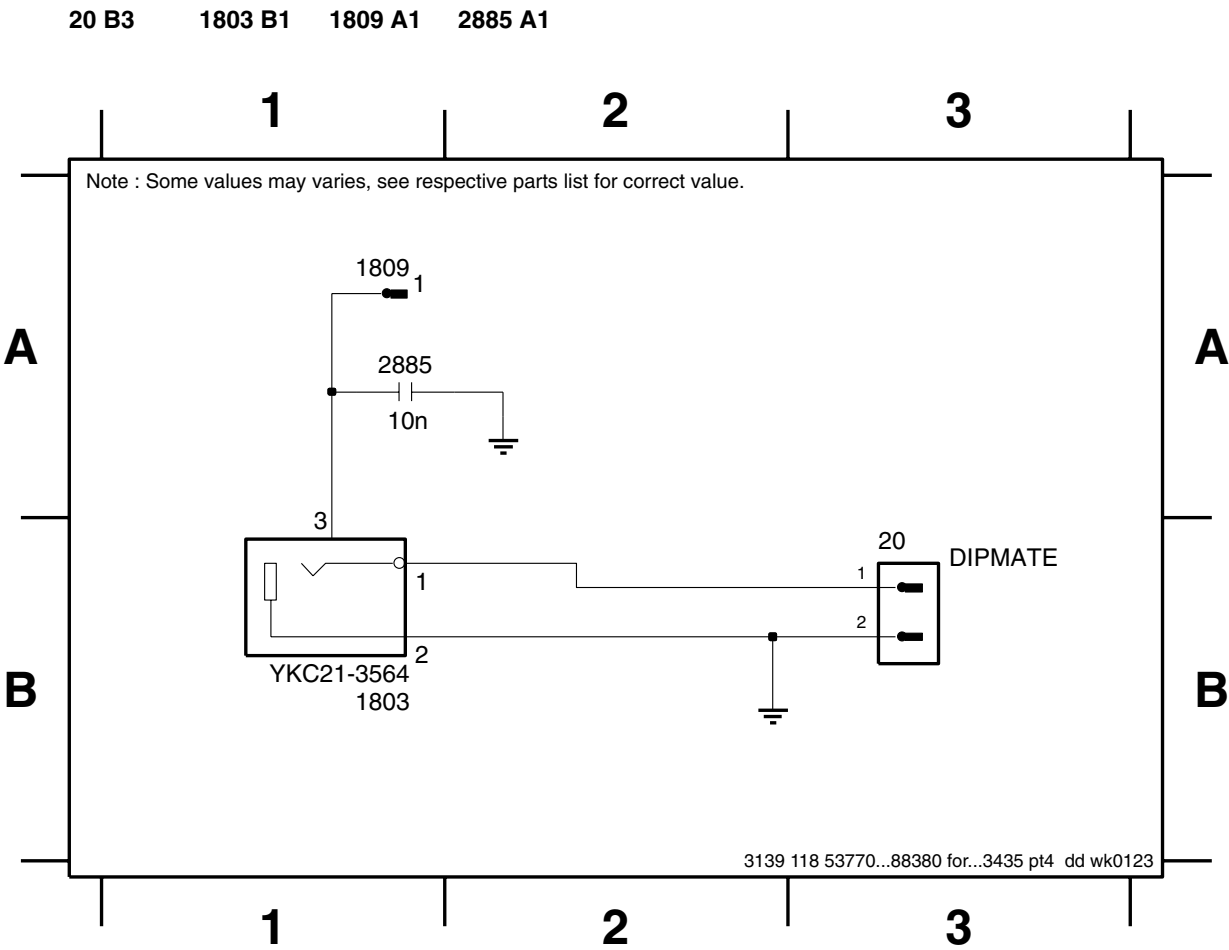
VIDEO OUT CINCH BOARD -
COMPONENT LAYOUT



VIDEO OUT CINCH BOARD -
CHIP LAYOUT



VIDEO OUT CINCH PART - CIRCUIT DIAGRAM



ELECTRICAL PARTS LIST - AF9 BOARD

MISCELLANEOUS

1206	4822 267 11039	Flex Connector 11P
1401	4822 265 11553	Flex Connector 19P
1402	4822 267 11039	Flex Connector 11P
1501	4822 265 20553	Cinch Socket - Aux in
1520	4822 265 11515	Flex Connector 8P
1523	4822 265 10981	Flex Connector 15P
1531	4822 267 10953	Flex Connector 7P
1603	4822 267 10733	Flex Connector 4P

CAPACITORS

2201	4822 124 40207	100uF 20% 25V
2202	4822 124 81151	22uF 50V
2203	4822 124 40433	47uF 20% 25V
2204	4822 124 40196	220uF 20% 16V
2205	4822 126 14238	2,2nF 50V
2206	4822 126 14494	22nF 10% 25V
2207	4822 124 40433	47uF 20% 25V
2208	4822 126 13879	220nF +80/-20% 16V
2209	4822 124 41751	47uF 20% 50V
2210	4822 126 13879	220nF +80/-20% 16V
2401	4822 122 31765	100pF 2% 63V
2402	4822 122 31765	100pF 2% 63V
2403	4822 126 14305	100nF 10% 16V
2404	4822 126 14305	100nF 10% 16V
2501	4822 122 31765	100pF 2% 63V
2502	4822 122 31765	100pF 2% 63V
2503	4822 124 22466	1uF 20% 50V
2504	4822 124 22466	1uF 20% 50V
2505	4822 122 31765	100pF 2% 63V
2506	4822 122 31765	100pF 2% 63V
2507	4822 126 14305	100nF 10% 16V
2511	4822 124 22466	1uF 20% 50V
2512	4822 124 22466	1uF 20% 50V
2513	3198 016 31020	1nF 25V
2514	3198 016 31020	1nF 25V
2515	4822 122 31765	100pF 2% 63V
2516	4822 122 31765	100pF 2% 63V
2521	4822 126 14305	100nF 10% 16V
2522	4822 126 14305	100nF 10% 16V
2523	4822 122 31765	100pF 2% 63V
2524	4822 122 31765	100pF 2% 63V
2531	4822 124 40769	4,7uF 20% 100V
2532	4822 124 40769	4,7uF 20% 100V
2533	4822 122 31765	100pF 2% 63V
2534	4822 122 31765	100pF 2% 63V
2535	4822 124 40769	4,7uF 20% 100V
2536	4822 124 40769	4,7uF 20% 100V
2541	4822 124 41407	0,47uF 20% 63V
2542	4822 124 41407	0,47uF 20% 63V
2543	5322 126 11583	10nF 10% 50V
2544	5322 126 11583	10nF 10% 50V
2546	4822 121 43856	4,7nF 5% 250V
2547	5322 126 11579	3,3nF 10% 63V

2548	5322 126 11579	3,3nF 10% 63V
2565	4822 121 43856	4,7nF 5% 250V
2567	3198 016 31020	1nF 25V
2568	3198 016 31020	1nF 25V
2589	4822 121 42408	220nF 5% 63V
2590	4822 121 42408	220nF 5% 63V
2591	5322 121 42661	330nF 5% 63V
2592	5322 121 42661	330nF 5% 63V
2593	4822 121 51252	470nF 5% 63V
2594	4822 121 51252	470nF 5% 63V
2601	3198 016 31020	1nF 25V
2602	3198 016 31020	1nF 25V
2603	4822 124 81151	22uF 50V
2604	4822 124 81151	22uF 50V
2605	4822 122 31765	100pF 2% 63V
2606	4822 122 31765	100pF 2% 63V
2607	4822 126 13881	470pF 5% 50V
2608	4822 126 13881	470pF 5% 50V
2609	4822 126 14508	180pF 5% 50V
2610	4822 126 14508	180pF 5% 50V
2611	4822 124 81151	22uF 50V
2612	4822 124 81151	22uF 50V
2621	4822 124 81151	22uF 50V
2622	4822 122 31765	100pF 2% 63V
2623	4822 124 40433	47uF 20% 25V
2624	3198 017 42230	22nF 50V
2625	4822 124 40207	100uF 20% 25V
2626	4822 124 40769	4,7uF 20% 100V
2641	3198 016 31020	1nF 25V
2642	3198 016 31020	1nF 25V
2653	4822 122 31765	100pF 2% 63V
2654	4822 122 31765	100pF 2% 63V
2669	4822 126 14305	100nF 10% 16V
2681	4822 124 40433	47uF 20% 25V
2682	4822 122 33752	15pF 5% 50V
2683	4822 126 14305	100nF 10% 16V
2691	4822 122 31765	100pF 2% 63V
2707	4822 122 31765	100pF 2% 63V
2708	4822 122 31765	100pF 2% 63V
2771	4822 124 41407	0,47uF 20% 63V
2901	4822 126 12882	100nF +80/-20% 50V
2902	3198 017 44740	470nF 10V
2905	3198 017 42230	22nF 50V
2908	4822 126 14305	100nF 10% 16V
2950	4822 126 13881	470pF 5% 50V
2951	4822 126 13881	470pF 5% 50V
2952	4822 122 31765	100pF 2% 63V
2953	4822 126 13881	470pF 5% 50V

RESISTORS

3201	4822 117 12968	820R 5% 0,62W
3202	4822 051 30151	150R 5% 0,062W
3205	4822 116 52289	5k6 5% 0,5W

ELECTRICAL PARTS LIST - AF9 BOARD**RESISTORS**

3401	4822 051 30471	470R 5% 0,062W	3623	4822 051 30102	1k 5% 0,062W
3402	4822 051 30471	470R 5% 0,062W	3624	4822 051 30562	5k6 5% 0,063W
3403	4822 116 52175	100R 5% 0,5W	3625	4822 051 30472	4k7 5% 0,062W
3405	4822 051 30103	10k 5% 0,062W	3626	4822 051 30472	4k7 5% 0,062W
3408	4822 051 30103	10k 5% 0,062W	3627	4822 052 10109	△ 10R 5% 0,33W
3409	4822 051 30562	5k6 5% 0,063W	3628	4822 116 52283	4k7 5% 0,5W
3412	4822 050 11002	1k 1% 0,4W	3629	4822 051 30472	4k7 5% 0,062W
3435	4822 050 11002	1k 1% 0,4W	3631	4822 050 11002	1k 1% 0,4W
3436	4822 050 11002	1k 1% 0,4W	3633	4822 051 30102	1k 5% 0,062W
3501	4822 051 30472	4k7 5% 0,062W	3634	4822 051 30562	5k6 5% 0,063W
3502	4822 051 30472	4k7 5% 0,062W	3635	4822 051 30103	10k 5% 0,062W
3503	4822 051 30123	12k 5% 0,062W	3636	4822 051 30472	4k7 5% 0,062W
3504	4822 051 30123	12k 5% 0,062W	3637	4822 051 30103	10k 5% 0,062W
3505	4822 051 30153	15k 5% 0,062W	3638	4822 051 30472	4k7 5% 0,062W
3506	4822 051 30153	15k 5% 0,062W	3640	4822 116 52289	5k6 5% 0,5W
3511	4822 117 12968	820R 5% 0,62W	3644	4822 051 30102	1k 5% 0,062W
3512	4822 117 12968	820R 5% 0,62W	3645	4822 051 30221	220R 5% 0,062W
3513	4822 051 30332	3k3 5% 0,062W	3646	4822 051 30221	220R 5% 0,062W
3514	4822 051 30332	3k3 5% 0,062W	3651	4822 051 30102	1k 5% 0,062W
3521	4822 051 30102	1k 5% 0,062W	3652	4822 051 30102	1k 5% 0,062W
3522	4822 051 30102	1k 5% 0,062W	3653	4822 051 30102	1k 5% 0,062W
3525	4822 051 30471	470R 5% 0,062W	3654	4822 051 30102	1k 5% 0,062W
3526	4822 051 30471	470R 5% 0,062W	3655	4822 051 30102	1k 5% 0,062W
3531	4822 051 30152	1k5 5% 0,062W	3656	4822 051 30102	1k 5% 0,062W
3532	4822 051 30152	1k5 5% 0,062W	3657	4822 051 30102	1k 5% 0,062W
3533	4822 051 30273	27k 5% 0,062W	3658	4822 051 30102	1k 5% 0,062W
3534	4822 051 30273	27k 5% 0,062W	3683	4822 051 30154	150k 5% 0,062W
3543	4822 117 12925	47k 1% 0,063W	3684	4822 051 30154	150k 5% 0,062W
3544	4822 117 12925	47k 1% 0,063W	3686	4822 117 12864	82k 5% 0,6W
3545	4822 051 30562	5k6 5% 0,063W	3687	4822 117 11817	1k2 1% 1/16W
3546	4822 051 30562	5k6 5% 0,063W	3688	4822 051 30391	390R 5% 0,062W
3547	4822 051 30103	10k 5% 0,062W	3689	4822 051 30151	150R 5% 0,062W
3548	4822 051 30103	10k 5% 0,062W	3692	4822 051 30334	330k 5% 0,062W
3549	4822 051 30183	18k 5% 0,062W	3694	4822 051 30222	2k2 5% 0,062W
3550	4822 051 30183	18k 5% 0,062W	3707	4822 051 30102	1k 5% 0,062W
3591	4822 117 12902	8k2 1% 0,063W	3708	4822 051 30102	1k 5% 0,062W
3592	4822 117 12902	8k2 1% 0,063W	3711	4822 051 30562	5k6 5% 0,063W
3593	4822 051 30562	5k6 5% 0,063W	3820	4822 116 52176	10R 5% 0,5W
3594	4822 051 30562	5k6 5% 0,063W	3821	4822 052 10109	△ 10R 5% 0,33W
3601	4822 116 52238	12k 5% 0,5W	4100	4822 051 30008	0R Jumper 0603
3602	4822 116 52238	12k 5% 0,5W	4101	4822 051 30008	0R Jumper 0603
3607	4822 051 30682	6k8 5% 0,062W	4104	4822 051 30008	0R Jumper 0603
3608	4822 116 83961	6k8 5%	4108	4822 051 30008	0R Jumper 0603
3609	4822 051 30273	27k 5% 0,062W	4110	4822 051 30008	0R Jumper 0603
3610	4822 051 30273	27k 5% 0,062W	4111	4822 051 30008	0R Jumper 0603
3611	4822 051 30479	47R 5% 0,062W	4112	4822 051 30008	0R Jumper 0603
3612	4822 051 30479	47R 5% 0,062W	4113	4822 051 30008	0R Jumper 0603
3613	4822 051 30102	1k 5% 0,062W	4114	4822 051 30008	0R Jumper 0603
3614	4822 051 30102	1k 5% 0,062W	4115	4822 051 30008	0R Jumper 0603
3615	4822 051 30339	33R 5% 0,062W	4116	4822 051 30008	0R Jumper 0603
3616	4822 051 30339	33R 5% 0,062W	4119	4822 051 30008	0R Jumper 0603
3621	4822 051 30103	10k 5% 0,062W	4122	4822 051 30008	0R Jumper 0603
3622	4822 051 30103	10k 5% 0,062W	4124	4822 051 30008	0R Jumper 0603

ELECTRICAL PARTS LIST - AF9 BOARD

4125	4822 051 30008	0R Jumper 0603	7501	9322 150 74668	TDA7468D
4126	4822 051 30008	0R Jumper 0603	7601	4822 209 31378	NJM4556AM
4127	4822 051 30008	0R Jumper 0603	7603	4822 130 42804	BC817-25
4128	4822 051 30008	0R Jumper 0603	7604	4822 130 42804	BC817-25
4130	4822 051 30008	0R Jumper 0603	7621	5322 130 60159	BC847B
4132	4822 051 30008	0R Jumper 0603	7622	4822 130 60373	BC857B
4133	4822 051 30008	0R Jumper 0603	7623	5322 130 60159	BC847B
4134	4822 051 30008	0R Jumper 0603	7635	4822 130 60373	BC857B
4135	4822 051 30008	0R Jumper 0603	7636	5322 130 60159	BC847B
4137	4822 051 30008	0R Jumper 0603	7651	4822 130 42804	BC817-25
4138	4822 051 30008	0R Jumper 0603	7652	4822 130 42804	BC817-25
4139	4822 051 30008	0R Jumper 0603	7653	4822 130 42804	BC817-25
4141	4822 051 30008	0R Jumper 0603	7654	4822 130 42804	BC817-25
4142	4822 051 30008	0R Jumper 0603	7681	4822 130 60373	BC857B
4143	4822 051 30008	0R Jumper 0603	7682	5322 130 60159	BC847B
4144	4822 051 30008	0R Jumper 0603	7803	5322 130 60159	BC847B
4145	4822 051 30008	0R Jumper 0603			
4146	4822 051 30008	0R Jumper 0603			
4147	4822 051 30008	0R Jumper 0603			
4148	4822 051 30008	0R Jumper 0603			
4151	4822 051 30008	0R Jumper 0603			
4152	4822 051 30008	0R Jumper 0603			
4153	4822 051 30008	0R Jumper 0603			
4403	4822 051 30008	0R Jumper 0603			
4501	4822 051 30008	0R Jumper 0603			
4641	4822 051 30008	0R Jumper 0603			
4642	4822 051 30008	0R Jumper 0603			
4811	4822 051 30008	0R Jumper 0603			
4812	4822 051 30008	0R Jumper 0603			
4903	4822 051 30008	0R Jumper 0603			
4904	4822 051 30008	0R Jumper 0603			
4908	4822 051 30008	0R Jumper 0603			
4913	4822 051 30008	0R Jumper 0603			

COILS & FILTERS

5621	4822 157 62552	Coil 2,2uH 5%
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DIODES

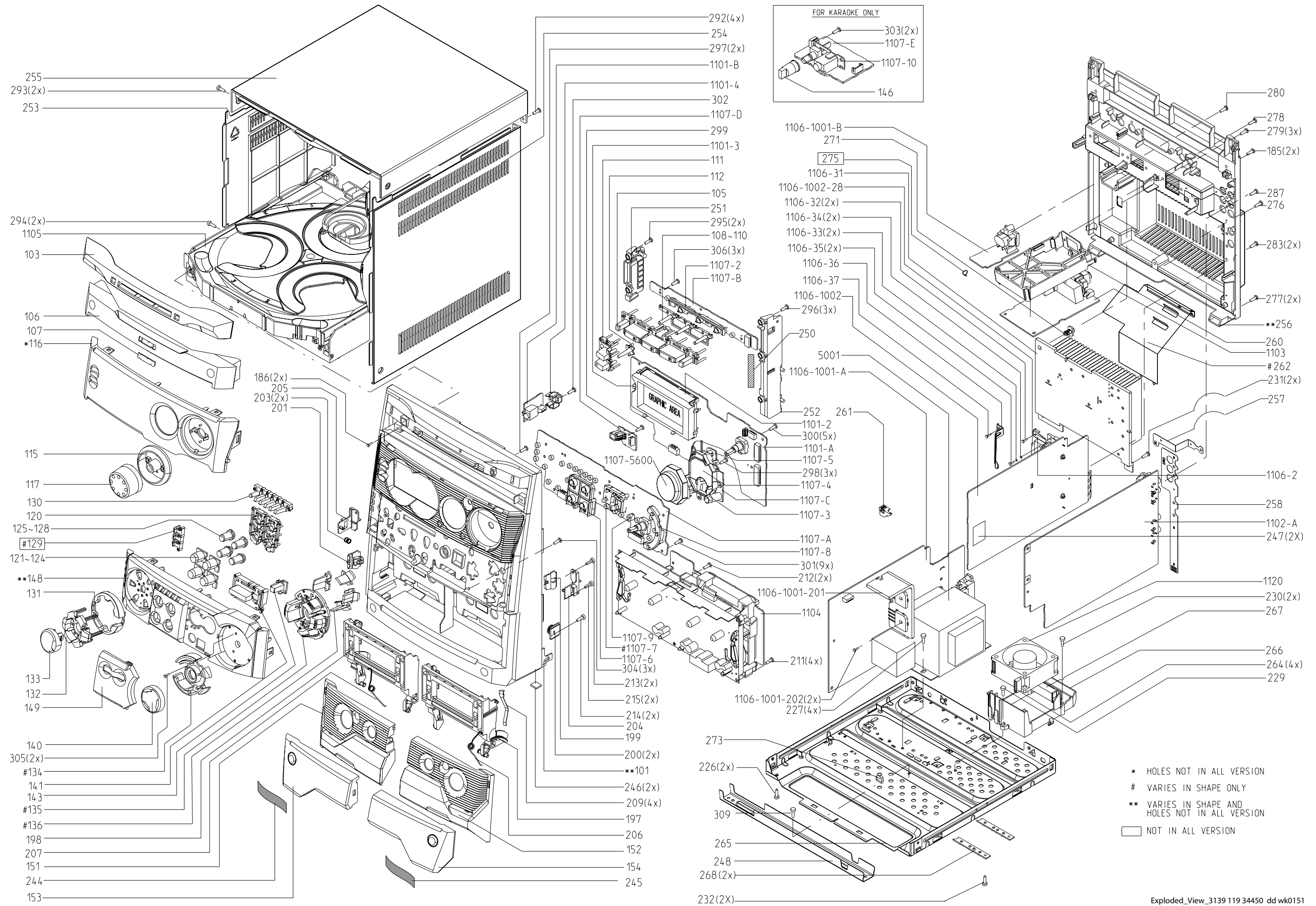
6201	4822 130 30621	1N4148
6202	4822 130 30862	BZX55-C9V1
6205	4822 130 61219	BZX79-C10
6206	4822 130 31878	1N4003G
6207	4822 130 31878	1N4003G
6208	4822 130 31878	1N4003G
6401	4822 130 30621	1N4148
6774	4822 130 30621	1N4148

TRANSISTORS & INTEGRATED CIRCUITS

7201	5322 130 60159	BC847B
7202	4822 209 72042	MC78L05ACP
7401	4822 130 41246	BC327-25
7402	5322 130 60159	BC847B
7403	4822 209 17345	M62320FP

Note : Only the parts mentioned in this list are normal service spare parts.

SET MECHANICAL EXPLODED VIEW



MECHANICAL & ACCESSORIES PARTS LIST - MAIN UNIT

0101	3139 118 17070	Cabinet Front	/21	0246	4822 462 40683	Foot Rubber (SQ)
0101	3139 118 16510	Cabinet Front V2	/37	0251	3139 114 72750	Bracket CDC Left
0103	3139 118 14320	Window CDC		0252	3139 114 72760	Bracket CDC Right
0105	3139 118 16820	Button Set CDC		0253	3139 114 73570	Panel Left /21
0106	3139 118 14340	Cover Tray CDC		0253	3139 114 74780	Panel Left V2 /37
0107	4822 454 13408	Badge Philips		0254	3139 114 73580	Panel Right /21
0111	3139 118 14350	Button Standby/Eco Power		0254	3139 114 74790	Panel Right V2 /37
0115	3139 118 14370	Cover Ring Volume/VU Chrome		0255	3139 114 73590	Cover Top /21
0116	3139 118 16530	Window Display		0255	3139 114 74800	Cover Top V2 /37
0117	3139 118 16640	Knob Volume Black		0256	3139 114 73140	Panel Rear /21
0120	3139 114 72360	Frame Button Set Source Select		0256	3139 114 74850	Panel Rear V2 /37
0121	3139 118 14390	Button Cap Source-CD		0271	3139 114 71010	Stopper Heatsink
0122	3139 118 14400	Button Cap Source-Tuner		0350	3139 118 79230	L/R Loudspeaker Box /21
0123	3139 118 14410	Button Cap Source-Tape		0350	3139 118 79100	L/R Loudspeaker Box /37
0124	3139 118 14420	Button Cap Source-Aux		0351	4822 303 50063	FM Aerial /21
0125	3139 114 72410	Lightguide Source-CD		0351	4822 320 11094	FM Antenna /37
0126	3139 114 72420	Lightguide Source-Tuner		0356	3139 228 60010	Remote Control
0127	3139 114 72430	Lightguide Source-Tape		0384	2422 549 45067	Antenna AM Loop
0128	3139 114 72440	Lightguide Source-Aux		0385	2422 070 98151	△ Mains Cord /21
0130	3139 118 14440	Button Prog/Time-Disp		0385	2422 070 98152	△ Mains Cord /37
0131	3139 118 16610	Cover Ring Func Control		0386	4822 263 21092	△ Adaptor Plug 6A 250V /21
0132	3139 118 14460	Button Set Func Control		0387	3139 115 21160	Instruction For Use /21
0133	3139 118 14470	Cap Function Control		0387	3139 115 21150	Instruction For Use /37
0134	3139 118 16620	Cover Ring DSC/VAC/DBB/IS		1120	4822 361 11161	Fan KD1206PTS3
0135	3139 118 14490	Button DSC/VAC/DBB/IS		1202	3139 110 35350	FFC Foil 11P/220/11P AD
0140	3139 118 14500	Knob Jog Rotary		1203	3139 110 35010	FFC Foil 07P/340/07P AD
0141	3139 118 16630	Button MAX Yellow		1401	3139 110 34970	FFC Foil 19P/180/19P AD
0148	3139 118 16570	Cov Orn Control	/21	1402	3139 110 34610	FFC Foil 11P/180/11P AD
0148	3139 118 16520	Cov Orn Control	/37	1403	3139 110 35130	FFC Foil 06P/180/06P AD
0149	3139 118 16540	Cover Control		1404	3139 110 35280	FFC Foil 10P/120/10P AD
0151	3139 118 16560	Cover Cassette Left		1405	3139 110 35000	FFC Foil 08P/120/08P AD
0152	3139 118 16550	Cover Cassette Right		1406	4822 320 12752	FFC Foil 07P/180/07P AD
0153	3139 114 72820	Lens Cassette Left		1407	3139 110 34010	FFC Foil 06P/140/06P AD
0154	3139 114 72830	Lens Cassette Right		1501	3139 110 35120	FFC Foil 04P/400/04P BD
0197	3139 114 68630	Door Cassette Right		1503	3139 110 35880	FFC Foil 15P/180/15P BD
0198	3139 114 68620	Door Cassette Left		1601	3139 110 35050	FFC Foil 08P/220/08P AD
0199	4822 402 10621	Push-Catch		1702	4822 320 12654	FFC Foil 07P/220/07P AD
0200	4822 529 10322	Damper Assembly		5001	3139 118 32580	△ Mains Transformer /21
0201	3139 114 68640	Push Catch Left		5001	3139 118 32560	△ Mains Transformer /37
0203	4822 492 11344	Spring Compression		Note : Only the parts mentioned in this list are normal service spare parts.		
0204	4822 402 11246	Bracket Right				
0205	4822 402 11245	Bracket Left				
0206	3139 111 01380	Spring Torsion Right				
0207	3139 111 01390	Spring Torsion Left				
0209	4822 492 42787	Spring Cassette				

SCREW LISTS - MAIN UNIT**LEFT/RIGHT LOUDSPEAKER BOX BREAKDOWN**

9965 000 11653	Woofer 6,5" 6R 135W	185	D3 x 12
9965 000 11654	Tweeter 2"	186	D3 x 12
9965 000 11655	Cosmetic Cap	211	D3 x 12
9965 000 09597	Piezo Assembly	212	D3 x 12
9965 000 07468	Woofer Ring	213	D3 x 12
9965 000 11656	Kendo Mask	214	M3 x 12
9965 000 03233	Grommet (Dia. 11mm)	215	M3 x 12

Note : Only the parts mentioned in this list are normal service spare parts.

226	M3 x 6
227	M3 x 10
229	M3 x 10
230	D3 x 10
231	M3 x 6
232	M3 x 6
276	M3 x 6
277	M3 x 10
278	D3 x 16
279	D3 x 12
280	D3 x 12
283	D3 x 12
287	D3 x 12
292	M3 x 12
293	M3 x 12
294	M3 x 10
295	D3 x 12
296	D3 x 12
297	D2 x 8
298	D3 x 10
299	D3 x 10
300	D3 x 12
301	D3 x 12
302	D3 x 12
304	D3 x 12
305	D2 x 8
306	D3 x 12
309	M3 x 6